ACCOUNTING
AS AN AID TO
BUSINESS PROFITS

PROPERTY OF
Educational
Division
THE SHELDON SCHOOL
No. 602 Date

Digitized by the Internet Archive
in 2026

https://archive.org/details/accountingasaidt0000will

ACCOUNTING AS AN AID TO BUSINESS PROFITS

By WILLIAM R. BASSET

A. W. SHAW COMPANY
CHICAGO NEW YORK
LONDON

COPYRIGHT, 1918, BY A. W. SHAW COMPANY

PRINTED IN THE UNITED STATES OF AMERICA

PREFACE

THIS book is not a treatise on accountancy but is what the title connotes—an explanation of accounting and cost accounting for the business man and to the end that he may use his records to earn greater profits. It is written for the business man who wants to know how best to manage his business and for the banker or investor who is looking for information by which he can understand the bookkeeping of a concern in which he contemplates an investment to determine if that bookkeeping is a mere collection of figures or a real living history.

The accounting of today is very different from that of a few years past; the only accounting which the writer thinks worthy of the name is that which combines an exact book record of transactions with an exact book record of operations so that causes as well as effects may be studied. Accounting can be and should be constructive and not merely historical; it should point out wastes and lead to betterments. In short it should, if it is to make for better business, tell the owner or executive every possible fact of his affairs.

The writer's procedure has been to take first in each chapter a number of incidents drawn from an experience with some thousands of concerns and then to develop the subject in a practical way, giving the various labor-saving forms which have been found most efficient, and finally to show how the actual entries should be made. Thus the business man will best grasp the full import and will not become confused with the mere terms of accounting—with which formality few business men have very much patience.

The incidents are drawn from many lines of business, some great and some small, but there are more incidents from large than from small business for the simple reason that the larger concerns have the better accounting. But the principles illustrated are universal and belong to business in general.

Some reader may find that his particular variety of endeavor has not been touched upon by name, and may instantly exclaim, "This is of no use to me, my business is different."

Let me say that your business—no matter what it may be—is not different. And further, I can confidently assert that were it possible to include examples and forms in this volume to cover every possible variety of business, that this book would then be of no more use to you than it now is. It might be of lesser utility. And for this reason: one cannot install a system of accounting, chapter and verse, and gain the best results.

Each business is different in that the conditions are never quite alike and individual adaptations should be made from the universal principles. To make these adaptations, there must be first an understanding of the principles; and once these are understood, it is surprising how easy it is to cut out a system which will exactly fit. Therefore, if the headings on a form do not happen to be the headings which you need—study the form and discover the exact wording that will best suit you.

The contents of this book give sufficient information for the formation of an efficient cost and accounting system for any kind or variety of business. My general plan has been to detail the elements of accounting, then to make the practical applications through the great divisions of business such as purchase, sale, and payment, and finally to elucidate cost accounting in principle and in method and then as applied to manufacturing, merchandising, jobbing and the sale of personal services.

In every case the practices recommended are the most modern and those which have given the most satisfaction in actual use.

CONTENTS

CHAPTER I

How Much Accounting You Really Need 1

Business by rule of thumb. Overaccounting. The place of accounting. Fitting the system to the work. Growing into the system. Time taken in installation. A common failing. Difficulties in installation. What is the best system? Basic principles that clarify. The "ready-made" systems.

CHAPTER II

How Accountancy Can Affect Your Profits 10

What is meant by "turnover" and "profit." Typical figures in various lines. Guessing at profits. Handling price-cutting methods. Ignorance of costs encourages price cutting. A concrete example. What his profits really were. Locating the profitable business. Statements on a unit basis. Labor efficiency. Expense analysis. Analyzing selling and freight. A small item, but nevertheless important. How the deal might have turned out. Planning the business ahead. Rapid development demands plenty capital.

CHAPTER III

The Essentials of Bookkeeping 25

Rehearsing the primary principles of accounting. The single entry system. What accounting should include. The basis of proper accounting. The double entry system. Debit and credit. Operation of double entry. The ledger. Why "subsidiary ledgers" are necessary. Some modern changes in method. The main functions of the general ledger. The passing of the day book.

CHAPTER IV

Opening the Books 38

Fundamentals apply equally to small and big business. The necessary records at the start. Regarding the capital transactions. When more money is needed.

CONTENTS

CHAPTER V

EFFECTIVE PURCHASING METHODS AND RECORDS 51

Hidden purchasing losses. Comparing two types of buyers. Getting down to basic buying principles. What exact buying knowledge accomplished. What comparative cost figures showed. Requisites of a purchasing system. Setting stock maxima and minima. Controlling the stock room. Another case of expensive stockkeeping. Serviceable stock records. Checking up on the storeskeeper. What shortage report should show. Purchasing department quotation lists. Performance records. Ordering the material. The purchasing agent's follow-up. A simplified purchase order. Purchasing supplies. Receiving the goods. The charge register. How the charge register simplifies accounting. The divisions of the charge register. Control of the charge register.

CHAPTER VI

HANDLING ACCOUNTS PAYABLE 83

Cooperation necessary. Cash discounts. The maturity file. Payment procedure. Voucher checks. Special voucher check forms. Check protection. Petty cash payments. The payroll. The manner of payment. How one big payroll was handled. The recording of the payments.

CHAPTER VII

HOW ACCOUNTANCY HELPS SALES 102

Profits require detail study. The unit of sale. Paying salesmen on a commission basis. Marketing divisions. Commission merchants a big factor. Selling expense and selling deductions. When is packing a selling expense? When is breakage a selling expense? Giving credits and allowances. Credit memorandum. Sales. Machine bookkeeping. Where monthly bills are less than a thousand. Simplifying the making of records. Cash sales. Selling expenses. Salesmen's expenses. Salesmen's commissions.

CHAPTER VIII

HANDLING THE CASH 126

Trade acceptances. Collections. Worthless and disputed accounts. A striking illustration. Receipts. The collection sheet. Cash receipts. The autograph system. Roller autograph registers. Two kinds of collections. Entering the receipts.

CONTENTS

CHAPTER IX

BALANCING THE BOOKS 142

Why the books were opened. Accounting principles are universal. Closing the books in the old days. Modern closing of accounts. Do not close too frequently. Why the book records are incomplete. The inventory. The relation of the inventory to profits. The question of pricing. Where experts disagree. When the market is up. When the price fluctuates. Goods in process. Finished goods. Finding the profit. Illustrating the point. Closing entries.

CHAPTER X

HOW TO ARRIVE AT YOUR STATEMENT OF CONDITION . . . 156

What purposes the statement serves. Neglect of statement grounds for suspicion. The form of the statement. Dividing the assets. Fixed assets. The depreciation reserve. Treasury holdings. Securities owned. Sinking funds. Current assets. The reasons for petty cash. How accounts receivable are shown. Accounts receivable in suspense. Notes receivable. Deferred assets. Prepaid operating expenses. Capital stock and liabilities. Bonded indebtedness. Current liabilities. Reserves. Contingent liabilities. Surplus. Net worth.

CHAPTER XI

HOW BANKERS ANALYZE YOUR STATEMENT OF CONDITION . 174

Two surveys of statements of condition. A general rule. The details of the statement. Competent audit adds value.

CHAPTER XII

WHAT IS GOOD WILL REALLY WORTH? 183

Can good will be valued? How the courts protect good will. The life of good will. Determining the capitalization value of good will. Placing good will on the statement.

CHAPTER XIII

CHARGING OFF DEPRECIATION ON THE RIGHT BASIS . . . 192

Why depreciate equipment? The operating worth. No arbitrary percentages. Emotional depreciation. The basis for depreciation. Obsolescence. Plant ledgers. Depreciating old installations. The depreciation of buildings. Life of structural types. Real estate. Appreciation.

CONTENTS

CHAPTER XIV

What Your Statement of Operation Means 200

The value of a statement of operation. The derivation of the statement. Forms of statement. Gross sales. Deductions. Cost of goods sold. Manufacturing expense. Depreciation. Manufacturing profit. Administrative and selling expense. Other income. Other deductions.

CHAPTER XV

What a Cost System Means to Your Business . . . 210

What is cost accountancy? Why exact costs are needed. Good systems are not complicated. No one system. The right system can be had. Costs as an aid to business. Choosing the right system. Fundamentals of cost. Material. Labor. Expense. Apportioning the expense. Costs from the statement of operation. Using cost figures.

CHAPTER XVI

Keeping a Record of the Cost of Materials 219

Forms of cost sheets. Handling losses or wastes. Standardizing to prevent waste. Plans that reduce waste. Charging scrap. Often salvaging pays.

CHAPTER XVII

How to Figure the Cost of Labor 232

Paying productive and non-productive labor. Charging direct labor. Keeping time. Non-productive labor. The problem of timekeeping. Making the payroll talk.

CHAPTER XVIII

How to Determine the Overhead Expense 242

The divisions of expense. The fixed charges. Departmental basis for costs. The departmental cost sheet. Collecting contributory and production expense. Making up the expense analysis. Analysis of power expense. Expense divisions. The separation of expense. Apportioning the expense. False methods of distribution. The pound or yard basis. Charging expense to production. The productive hour method. Dividing into production centers. Methods of distributing expense. Choosing the right method. When to use the labor dollar method. When is a machine economical? Charging overhead on material. Getting costs by standardization.

CONTENTS

CHAPTER XIX

DETERMINING THE SELLING EXPENSE 268

Collecting the selling expense. Divisions of expense. Rating salesmen. The place of advertising expense. The distribution of expense.

CHAPTER XX

TYING ALL THE COSTS INTO THE GENERAL ACCOUNTS . . 273

Checking the costs into the general books. What manufacturing expense is. Handling finished goods and parts in process. Determining the frequency of making statements.

CHAPTER XXI

ACCOUNTING FOR THE MAN WHO SELLS PERSONAL SERVICE . 280

Handling traveling expenses. The place of office burden. Handling dull and rush seasons. Summarizing the charges.

CHAPTER XXII

ACCOUNTING FOR THE RETAILER 285

Determining the basis of merchandising costs. What is a department? The reasons for frequent turnovers. The fundamental books to keep. Purchasing for the retailer. The charge register. Making the sales records. Handling returns. Handling cash receipts and disbursements. Gathering daily sales totals. Marking up and marking down. Entering charge accounts. Distributing expense. Apportioning the fixed charges. Charging deliveries into expense. Determining departmental expense. Handling general bookkeeping.

CHAPTER XXIII

ACCOUNTING FOR THE JOBBER 305

The functions of a jobber. The jobber as a distributor. The jobber as a banker. The principal jobbing expenses. The importance of accounting to the jobber.

CHAPTER XXIV

CONTROL REPORTS FOR THE EXECUTIVE 307

How closely should an executive supervise details? How much should he rely on subordinates? The minimum of reports for the executive. No business too large or too small for central reports. The graphic representations of accounts. The value of graphs. When symbols can be used.

CHAPTER I

HOW MUCH ACCOUNTING YOU REALLY NEED

ACCOUNTING may be defined in a general way as the record of a business and is thus distinguished from bookkeeping, which may be called a record of transactions. Accounting cannot exist without bookkeeping, but it is possible for bookkeeping to be present without any proper degree of accounting—without a system of larger record which coordinates the business factors so that the result can really be called a true record of the business. Sound bookkeeping is the basis of sound accounting.

Sound bookkeeping is not merely elaborate bookkeeping—it is the opening of the right accounts for the particular business and the making of the entries in these accounts.

It is perfectly feasible to conduct a successful business with but the most meager of accounts. Many men have left large fortunes derived from enterprises which never owned more than a single book. But those men lived yesterday—not today.

Business by Rule of Thumb. I recall one rather large lumber operator who had the simplified—almost the foolish—system of keeping his records. They reposed in the breast pocket of his coat; he explained the system to me: "This," said he, fishing out an envelop covered with figures, "is what is coming to me, and these," taking out a wad of bills, "are what I owe. I just add my bank balance to what is coming to me and I deduct from it what I owe. I know just where I stand. What do I want with accounting?"

Did he know where he stood? He had no method of fixing the price of his lumber or of detecting whether or not he was losing money, until the money had actually been lost. He cut the timber from the virgin forests, sold it at the market price, paid his labor and other bills and went on contentedly.

He could manage to exist without accounts because he had a business which was comparatively simple in itself and in which

the price was fixed by outside conditions. The market gave him a margin of profit; but, had the market fallen, he would not have known how to trim himself to make money under the new conditions.

Such men undoubtedly can get on in some fashion or other without real accounting. We know that because they do—and we also know that they are not safe risks. They will usually be found to have a geographical or industrial situation where there is little or no competition. They cannot exist in keen, competitive times, nor can they be regarded as types for any man to follow; they have succeeded because natural conditions were so favorable that they could not fail unless by extraordinary perversity. They succeed in spite of their methods.

Overaccounting. On the other hand it is undoubtedly true that not a few men have failed who have specialized in the accuracy of their accounts—have miserably failed. They have known every single fact about the business excepting one—the how of making money.

Overaccounting is usually caused by fitting a number 10 system on a number 3 business or by striving for too elaborate a summary of unimportant detail. The cost system of the United States Steel Corporation or of a great automobile factory cannot in its entirety be superimposed on a business with a gross of fifteen thousand a year—nor of a hundred thousand a year for that matter. The point where it is more expensive to save than to lose a penny depends upon the number of times that penny or its fellows figures in an operation.

The principles of good accounting do not vary, but their application must be tempered by common sense and the exigencies of the situation. The accounting should give useful, business-guiding results and not results which are only curiosities.

Overaccounting is waste. A great insurance company put in a new system of records at a cost of several hundred thousands of dollars; the design was to inform of every fact, comparison, and percentage. They got reams of statistics but, in a few months, the executives awoke to the fact that the new system did not more accurately determine the vital points than had the old—and it used twice as many clerks. I know a concern which adopted a system that involved the use of 70 clerks where 30 had before been ample and yet these 70 clerks failed absolutely to give accurately the critical figures.

A big manufacturing company in the East some 10 years ago determined to attain an exact record of costs in every step in every department. This was, in itself, a commendable intention and could have been made the basis of greater profit through the revealed possibilities of economy. But the cost system was not tempered with common sense, it was refined to such a degree and took so many employees that the former profits of the concern were entirely absorbed in the cost finding. These are all extreme cases, but they go to show that good accounting is never unreasonable.

The Place of Accounting. In none of the cases above was success due to lack of accounting, or was failure due to the presence of accounting. Those who succeeded in spite of their methods will be among the first to fail when competition strikes. Those who apparently had too much accounting really had no accounting at all—only an abundance of figures.

But what is accounting and what will it do for a business—for my business?

Accounting is the assembling of the record of the business in such form that comparisons may be made and errors or wastes detected. It will show up true conditions, take the mystery out of profits and, by study, permit the intelligent devising of ways and means for greater profits.

It will not act as the motive power of a business nor will it supply a deficiency in ordinary business acumen. Accounts are the gage and not the motor of business. An exact record of deeds will not substitute for the deeds any more than will a good intention substitute for an accomplished act.

Accounts are useful only as they are a record of business, and used thus will permit intelligent progress to be made upon a foundation of fact. They will check errors, but they will not automatically promote business. They will, however, enable any concern to know its strength and its weakness and thus to build on a sure ground of profit.

That is the function of accounting and as such it is an inseparable aid to business profits and business building.

The progress of a business without true accounts as compared with one which has true accounts is as the man groping in a dark room to the man who walks in a room flooded with sunlight.

Fitting the System to the Work. There are no universal systems. I am rather of the belief that no system at all is better

than a system which is not fitted to the work in hand. It is better not to know at all than to have false information. The business which has no worth-while accounting will receive its warning signals from the outside—it will be discovered that "something is wrong" and a search will be made for the trouble; but if the business has supposedly infallible accounting which is really not fitted to its needs, then the results and not the outside warnings will alone be heeded—and then it may be too late.

But the business which has its accounting on a firm basis—on both the commercial and the cost sides—is on a sure foundation. If profits are not right, the cause can instantly be found and the remedy devised. It is never necessary to make a speculative diagnosis when the exact record of the business is unfolded. The weak points reveal themselves almost to the casual observer. No business can be considered as sound which does not know where, how, and why it makes a profit. Therefore, although proper accounting will not substitute for business brains, it will help mediocre brains into a higher class and will show the fine brains previously unknown avenues of progress.

The system of accounting adopted must be devised to suit the needs of the business. That is step one. Step two is almost equally important; it is gently to fit the new procedure on the established business.

Growing into the System. Systems of accounting are not often "put in." The best system in the world—the exact system which the particular business requires—may lose all its efficacy by being suddenly thrust upon the office. Clerks cannot change overnight from one system to another; they will not take in at once all the features of a new installation. That which was designed to avoid confusion may cause infinite confusion.

Let me warn against undue enthusiasm over good accounting and the instant desire to change everything forthwith. Much excellent accounting work has been lost because of the shock of impact upon the office force.

Even where conditions are such that quite extensive changes might be physically feasible, the personal element may stand in the way. The personal equation is to be considered in the speed of the installation of new systems. Trusted employees may resent sudden orders which they do not understand, but they will likely take sympathetically to gradual changes which are made after consultation with them.

The human elements are not to be neglected by the wise owner and it makes no difference whether the human element is personified by one bookkeeper or by a staff of a hundred; in fact, one man may protest more vigorously than a hundred.

Putting aside the personal equation as a matter to be decided by the man on the spot, the size and the character of a business will determine the rapidity with which new methods should be adopted.

In the case of an established business a comprehensive method can be planned at the outset, but the steps of introduction should be taken one by one and only after each step is thoroughly safe. In a few cases the new system can go in at once; in the average case from nine months to a year will be necessary, while the very large business will require two, three, or more years.

Time Taken in Installation. To illustrate—a simple case in which the complete installation was finished in nine days: The owner of a retail coal business which sold about 40,000 tons a year had discovered that he was guessing at his profits through most of the year. He had a large number of small accounts totaling some 10,000 tons which were paid on the one- or two-dollar-a-week plan; each of these accounts was contained on a card and the daily payments and disbursements were entered in a cash book by him.

The system was essentially single entry, for he was without a method of proving the accuracy of the results, except that twice a year he took an inventory and from the results of that inventory he decided what his profit had been for the previous six months. He always had to wait six months to know where he stood—and six months is a long time to travel on guesswork in the modern business world.

The new installation was very simple; instead of the cards and the cash journal, we substituted a daily sheet typed by a girl in two hours. (The handwritten entries had taken four hours.) The sheet with the tonnage of sales was posted to a ledger account where it met the previously posted record of tons purchased. But taking off the ledger a statement of coal remaining on hand would not have been accurate because stored coal shrinks in tonnage; the subtraction of the coal sold from the coal purchased would not have given the tonnage in the yard.

By a series of experiments we found that 40,000 tons shrunk about 600 tons while stored, which gave a figure of about 5 cents

a ton to be added to the cost of the coal sold, to determine the value of the remaining contents of the bunkers from the ledger.

A careful study was made of the selling expense, an important part of which was the depreciation and upkeep of the delivery automobiles; and thereby the overhead was determined. (The definition of all these various accounts will be found in detail in the subsequent portions of this volume.) By knowing these factors it was possible to determine at the end of each month the exact profit for that month and to discover many of the operating mistakes that had been made.

A Common Failing. The owner, and this illustrates a common failing, became so enamored of his cost system that he wanted it further developed so that his exact standing and profit at the end of each business day could be had. But his business did not require such minute accounting and the proper calculation for daily balances would have required the services of at least two more bookkeepers in addition to the two who were already employed. He was dissuaded from the adventure in overaccounting.

It was discovered that the profit was $2 a ton gross and $1 net. He had previously been under the impression that his profits were much lower. Both the owner and the clerks were in complete sympathy with the new methods and the time consumed in installing was only that necessary to complete estimates of coal shrinkage and to train the bookkeepers.

Difficulties in Installation. A fair-sized gas-making plant offers an example of the middle class of difficulty. The general character of the bookkeeping of a public service corporation in most states is regulated by commission and therefore certain phases could not be touched. The principal object was more accurately to determine costs. These are of particular import in a gas plant, for the gas itself, although supposedly the main product, is not the source of the greatest revenue; that is found in the by-products—coke, ammonia, and so on.

The first step here was the installation of a voucher register which was a combination ledger and distribution journal. Then the organization of the office records was gradually completed and a start made on the manufacturing cost system, first on the gas and later on the by-products. At the end of nine months the new system was all in with the unqualified approval of the managers, clerical force, and foremen.

In a large chemical house, the bookkeeping methods have been in process of reorganization through several years without having yet been completed and also without the loss of any time that might have been saved. This concern has five plants in different parts of the country, branch selling offices in most of the large cities, and numerous additional selling agencies.

The old system of accounting had not given the right distribution of expenses; throughout the whole organization, the selling, the administrative, and many of the manufacturing expenses were improperly merged. It was impossible to make a sweeping change which the thousands of clerks could immediately comprehend, or indeed to plan any radical change and execute it without a fear that some mistakes had been made in the design—the operation was so big.

The desire behind the changes was to bring the accounts of all branches to control at the central office where the executives might have constant and comprehensive knowledge of the whole business. Instead of beginning at the central office, only a few changes were made there at the outset and the attention was given to the branches, each, in turn, being gradually revamped. Thus when the final improvements were made in the home office, the branch offices had already become thoroughly accustomed to the new order.

Unless you have your business well in hand and it is comparatively small, do not "put in" a new system—instead, plan your new system as a whole, but adopt it, bit by bit, preferably after conference with your employees.

What Is the Best System? Just as the best accounting will be the result of a development in its installation, so the new business will find that it cannot adopt all of any system at the very beginning of its career. Otherwise it may be found that the dealings are being shaped to the system instead of the system to the dealings. There are examples of this all about us.

It may be given as a general principle that the best system of accounting is that which will give the most accurate results with the least clerical work. Good accounting is not necessarily complex. More than likely the reverse will be true. One must be on one's guard against the seductiveness of elaborate accounting. I have already urged this point.

Because business is multifarious, accounting is multifarious, and the number of good systems is limited only by the conditions

and kind of the business. It is the same with cost systems. There is no sample stock from which an exact system may be picked; accounting and costs systems are made to order and not ready-made affairs—if a respectable fit is to be hoped for.

Basic Principles that Clarify. Running through all proper systems of accounting are certain basic principles. The understanding of these principles will enable the adoption of the needed elaboration of accounting both at the beginning of the business and from time to time as the business develops. And an understanding of principles will take away much of the mystery which too often surrounds the books. An "intelligent record" and a "comprehensible record" should be synonymous.

But because accounting methods must be made to fit a particular business, do not imagine that the principles vary. The principles are unchanging. From this book any man should be able to pick out something that suits him.

It is a common error for the retailer with a small house and a single bookkeeper to declare: "Oh, that is all well enough, but I am not big enough for those things."

I have heard this condemnation of an excellent system because the writer mentioned a "purchasing department" and the speaker had not an establishment of sufficient size to warrant a purchasing agent. He did not see that "purchasing department" was but a term of convenience and that the maxims of purchasing given would hold for any man who bought—that the book was talking about the science of purchasing and not of mere departmental division.

Throughout this book most of the examples are taken from fairly large and representative rather than from small businesses, but the selection is thus made only because the larger business commonly has better accounting methods than the smaller. The greatest lessons for the small business are to be taken from successful enterprise, and successful enterprise cannot long be small. One does not seek a teacher among those who know less than oneself about a subject. The real instruction is to be found among those who have met and conquered the problems which we may now be facing.

The "Ready-Made" Systems. Again, no man should seek a ready-made system of accounts and adopt it by rule rather than by reason; any business man can master the science of his accounts. He may not care actually to make the entries nor

even to be able to make them, but he should know the why of every detail; otherwise he cannot exercise that control over the accounting which an executive must have.

Therefore, do not seek a form which will just about fill your bill; find out the reason behind the form, and then design one which will exactly suit you. It is not hard to do.

This book, of necessity, starts at the very beginning of the subject of accounting, and the opening chapters deal with simple elementary bookkeeping. Many readers will not be interested in this primary matter, but in order to make a cohesive whole it is necessary to assume that the reader begins without the slightest knowledge of either bookkeeping or accounting. Then we proceed, step by step, to the more advanced practice.

In every case the incidents and examples which are given are taken from the experience of the writer. For obvious reasons, the names of the firms from whose history the examples are cited are not given in the text.

CHAPTER II

HOW ACCOUNTANCY CAN AFFECT YOUR PROFITS

I HAVE endeavored to impress in the preceding chapter that accountancy is not the motive force of a business—it will not create business—and it cannot be too strongly emphasized that good accountancy (in which is included a thorough and comprehensive cost system) will never supply the lack of ordinary business acumen.

How, then, if it will not promote business, will it aid profits?

The business man is very properly not interested in any study of business which will not directly or indirectly contribute to the success of his own commercial activities, and the ordinary expression of success in commerce is summed up in the word "profit." A proper system of accountancy and cost will determine how and where profits or losses occur, and thus, by taking the proceedings out of the dark and into the light, permit a study which will lead to a further strengthening of the strong points and to a bolstering up of the weak points.

That is the function of accountancy and any system which does not eventually produce such an exhibition is bad. If the basis of profit is known, then the profit itself may be studied in an exact, scientific manner.

The Federal Trade Commission, in almost its initial study, found that fully 100,000 American corporations were running at an annual loss, because they did not have proper methods of accounting and cost finding, and that of 250,000 corporations engaged in trade and industry in the United States, scarcely one quarter were making profits of $5,000 a year or more.

What Is Meant by "Turnover" and "Profit." The question as to what constitutes a fair and proper margin of profit on sales is one which cannot be answered dogmatically, for necessarily it varies with the nature of the business under

consideration. However, certain fundamental conditions govern a discussion of the adequacy of return upon capital invested.

The frequency or rate of "turnover" in either manufacturing or merchandising is an important factor in determining the margin of profit, but it is not all-controlling. By "rate of turnover" is generally meant simply the activity of that portion of the capital invested which is contained in the value of the inventory.

This represents but a part of the enterprise's assets and not the entire wealth or resources engaged in the given business. It is necessary, therefore, to go beyond the rate of turnover and to consider the relation which gross sales bear to capital investment in a well-conducted and normal manufacturing business.

Typical Figures in Various Lines. To illustrate the point the following tabulations have been prepared from available statistics which indicate for various industries—first, the margin of profit on sales; second, the ratio of gross sales to capital investment; and, third, the equivalent of the profit expressed in rate of return on the capital.

The figures do not express an ideal or a standard, but merely the average condition found in the cases examined:

Agricultural implements	10.5%	0.57	6.0%
Automobiles	9.9%	1.44	14.3%
Boots and shoes	5.9%	2.30	13.8%
Canning and preserves	9.0%	1.32	12.0%
Cement	14.0%	0.34	4.8%
Cotton goods	6.5%	0.76	4.9%
Electrical machinery	11.7%	0.84	9.8%
Foundry and machine shop	11.4%	0.83	9.5%
Leather	6.1%	0.99	6.0%
Paint and varnish	12.1%	1.20	14.6%
Paper and wood pulp	9.1%	0.65	5.9%
Pottery and terra cotta	12.4%	0.54	6.7%
Woolen and worsted goods	5.8%	1.05	6.1%

In reality, instead of considering, in fixing the rate of turnover, merely that part of the capital expended in inventory, the whole capital investment is placed in relation to sales, and it is found that the rate of turnover then varies from as low as 0.34 in the case of cement manufacture to 2.3 in the case of the boot and shoe industry.

The rate of turnover in retail merchandising is better understood than in manufacturing. Certain rates which may be

termed standard have been compiled by the Bureau of Business Standards of the A. W. Shaw Company, and are as follows:

Type of Store*	Average number of turnovers obtained annually
Grocery	10
Department	7
Variety goods	6
Drug	4.5
Dry goods	4
Hardware	3.5
Furniture	3
Shoe	2.1
Clothing	2
Jewelry	1.5

From the books of several hundred stores carrying departmentalized stocks, averages for 12 standard lines were obtained as shown below:

Line**	Average number of turnovers obtained annually
Notions	9
Corsets	8
Women's ready-to-wear	6
Wall paper	4.2
Men's furnishings	4.2
Underwear	4.1
Hosiery	4
Gloves	3.5
Dress goods	3.2
Silks	3.1
Domestics	3
Carpets	1.5

Naturally any question of legitimate or required profit on sales must involve a consideration of the rate of turnover of the entire capital; for, in eventual analysis, profit expressed as rate of return on capital is the controlling consideration.

Guessing at Profits. To express profit properly does not require, in most cases, elaborate accounting or cost systems, but it does require a coordination in accounting which will insure that the result really denotes profit. Such a statement seems almost puerile, and so it would be were it not that only a trifling

*The turnovers are for the complete stocks and have no reference to either the character or the number of lines carried.

**These average turnovers are for typical lines and bear no relation to the turns normally obtained through complete store stocks.

percentage of our business men know their profits with exactness. It is not too much to say that keen, competitive commerce cannot be carried on without an exact knowledge of profits —not merely of gross profits, but of the profit on each article sold and of the profit on each manner of sale.

The problem of profits runs quickly into cost accounting; an accurate set of books quickly breeds, and in fact is not complete without, an equally comprehensive system of cost finding. Particularly is this the case in any line of business where the profits have been abnormal and then competition has brought in an era of price cutting. Such was the situation not long since in one of the most important manufacturing industries in this country. It was afflicted with the price-cutting fever.

Up to four or five years ago the industry as a whole had shown comfortable profits, despite slack manufacturing methods. A very small amount of capital was necessary to equip a plant, and the profits were so alluring that the field became crowded.

In a short while the profits dropped to little or nothing. The more progressive firms pulled in their slack and managed to survive. The others went to the wall. The price cutting continued with but slightly abated zeal.

Handling Price-Cutting Methods. The manufacturers formed an association to further the interests of the industry, and the price-cutting evil came up for discussion at almost every meeting. With the elimination of the weaker firms there was indication that sufficient demand had been created by the reduction of prices from the old false level to keep the plants going at reasonably remunerative figures.

The various members of the association appreciated the vital need of close cooperation, and many plans for working together were talked over and tried. All the plans fell through, however, because all were completely ignorant of costs.

Several of the plants had tried out cost systems, but in every case they had unfortunately picked incompetent cost accountants and had thus gained no tangible results.

One plant, the largest, had made two essays at accurate costs. The first attempt was by outside talent and the costs—largely a compilation of arbitrarily picked figures—showed that a profit was being secured on every article. The "profit and loss account" at the end of the year demonstrated this to be not only false reasoning but ridiculous as well.

Another attempt, made by their own people, had exactly the opposite result—they apparently lost money on everything they made. This again was out of the question, as they would have been bankrupt in a few years on the basis of the figures shown, instead of which they were just "getting by." It was apparent that it was necessary to get on a sound basis at once.

Ignorance of Costs Encourages Price Cutting. The other members, although likewise unfortunate in their experience with cost systems, saw the importance of getting some idea of production costs, but as they lacked dependable information of the various elements that entered into the final cost of their goods, the price cutting proceeded merrily.

For instance, A would estimate that a certain article cost him $4.50, and would quote on that basis. B would hear of this quotation and immediately figure that if it cost A $4.50 with his big office force, he (B) could make it for $4.25. Then C would opine that if B could make it for $4.25, with the big salaries B paid his executives, he could make it for $4.10. Then D conceived that he could make it for $4 because C had such a large advertising expense. And finally E, who had a small factory and acted as superintendent and foreman of all departments, became sure that he could sell at $3.85. A, who originally figured his cost at $4.50, now believed that with his big production and efficiently run factory he could go to $3.75 if E could make them at $3.85.

In order to revive an interest in dependable costs, the association had each member submit his own estimate of the costs of the elements in one article which was made by all.

The result was astounding. It showed a variation from the highest to the lowest of about 25% of the average cost. And this with labor cost—which had been set by the union—exactly the same!

The big plant took immediate action. A report was made for them by outsiders suggesting a simple cost method. The report was accepted and work of installation begun at once. In four months final costs were made up—not entirely accurate, of course, for the period during which the cost data was collected was too short to give dependable averages—but sufficiently near the truth to convince the management that they had something that would eventually give them usable records on which to base their selling prices.

The more progressive members of the association soon fell into line, and now uniform cost methods are being installed in a number of plants. These have all advanced their prices to somewhere near their costs on the articles which they were formerly selling at a loss. The plants report that they are getting these prices in spite of the fact that some of the advances were quite heavy.

In many cases the accounting is so deficient that profits are the veriest matter of guess—and the guess is always far above the real mark. Take a case in point which will serve well to emphasize the dangers of any haphazard method.

A Concrete Example. A coal operator had leased a mine for a short term, on the condition that if he succeeded in making the mine a profitable enterprise, he would be given a long-term lease. The first year's production was 60,000 tons. He calculated that he made a dollar a ton profit; that is, $60,000. But he knew that he had withdrawn for his own uses the sum of $5,000, and therefore he conveniently arrived at the conclusion that his net profit for the year was $55,000; but he did not have $55,000, or any sum resembling $55,000 in the bank. He called in an accountant to find out what had happened to his money.

His books were remarkable. They were a cross between double entry and single entry. The young woman who acted as bookkeeper credited or debited according to her mood of the moment, and entirely without relation to whence the money had come or whither it went.

The proprietor, in arriving at his calculation of profit, had necessarily been quite independent of his crazy books, and had reached the profit of $1 a ton by some sentimental course of reasoning. He had neglected almost every charge that could be neglected. He had not charged himself with labor, which reduced his fanciful $55,000 by the neat sum of $30,000. He had not reckoned merchandise purchased or the lumber used in props or shoring. Neither had he charged off any portion of the investment in additional equipment which he had been forced to make before he began to mine. There had been no check on expenditure. He had decided on each expenditure and the amount thereof purely with regard to the necessities of the moment and without relation to the progress of the business.

What His Profits Really Were. It came out that he had actually made a profit of 25 cents a ton and not a dollar, and

that his total profits were $14,000 and not $55,000. When the statement of the actual conduct of his business was before him, instantly he discovered numerous places at which economies might have been effected. He was amazed to see he had overlooked wastes which seemed so obvious when set forth in clear figures. His case was not unusual; although a man of considerable means, he had never before seen a statement of any business in which he was concerned, and also he had never made up a statement of his own personal affairs by other than the "rule of thumb" method.

If a vaguely conceived and totally inaccurate statement discloses a large profit, it is only human nature for the proprietor to have a profound sense of self-satisfaction; he will not be inclined to inquire into the "why" or "how" of the supposed profit, or to make a real effort to improve the business. But if the statement be accurate, the why and how of the profit will appear, and the items being separated, comparisons with previous years will be promoted and investigation invited.

Locating the Profitable Business. The data furnished must not only arouse the emotion of the executive, but guide him immediately to the spot where action is needed. The development of the following account from lump sums to details shows how an executive may or may not locate the profit items. It is taken from manufacturing, but the thought holds equally for merchandising. The profit or loss statement of a concern was as follows:

Sales	$100,000
Manufacturing cost	90,000
Selling expense	7,000
Net profit	$3,000

A net profit of $3,000 on total sales of $100,000 is certainly not satisfactory and is quite sufficient to cause the ordering of a general investigation. But unless the accounts are well ordered, this general investigation will be a long task and the executive is more than likely to put down the small profit to some business condition, such as close competition or the like, and pray that the next year will be better.

The above concern dealt in three commodities. If, instead of using a statement such as the above, one similar in form to the following had been made, considerably more light would have been thrown on the situation.

	Commodity A	Commodity B	Commodity C	Total
Sales	$50,000	$30,000	$20,000	$100,000
Manufacturing cost	48,000	25,000	17,000	90,000
Selling expense	3,500	2,100	1,400	7,000
Profit		$2,900	$1,600	$3,000
Loss	$1,500			

By merely separating the three commodities it appears that on one there was a loss, on another a fair profit and on the third an excellent profit. But here again this statement is deficient, for the information given to the executive concerns only one phase of the business; that is, the sales policy, from which it might appear that it would be well to drop the manufacture of the commodity upon which a loss had been sustained. But there is no indicator in this statement as to the efficiency of operating nor any sign that the item of manufacturing cost may not be higher than the average, due to low production, to extravagance in operating, to extraordinary expenditure, or to any of the many elements which go to make up manufacturing cost and which might be controlled or reduced.

Statements on a Unit Basis. This difficulty would be avoided if the statement were reduced to a unit basis.

	Commodity A	Commodity B	Commodity C	Total
Sales	$50,000	$30,000	$20,000	$100,000
Manufacturing cost	47,000	23,500	16,500	87,000
Selling expense	3,500	2,100	1,400	7,000
Profit		$4,400	$2,100	$6,000
Loss	$500			
Loss due to abnormal expenses				3,000
Net profit				$3,000

This statement permits the executive to place the blame for some of the low profit to excessive expense cost and possibly to some items that caused the increase. Therefore, he summons his superintendent and points out to him the weak spots. Now the superintendent is in trouble, for who among his foremen is responsible? Unless he has an exact means of determining the responsibility, he will either drop the matter at once or he will take all the foremen earnestly and impartially through a course of sprouts, and thereby probably cause general dissatisfaction. Had there been a subsidiary departmental expense report, the

blame could have been fixed. Such a report would have read as follows:

	Gain	Loss	Explanation
Department 1	$200	.....	Large production
Department 2	....	$ 375	Heavy repairs
Department 3	....	2,050	Heavy spoilage and low production
Department 4	225	.....	Low non-productive labor
Department 5	....	500	
Department 6	200	.....	Increased production
Department 7	....	700	Low production
	$625	$3,625	
Net loss due to abnormal expenses		$3,000	

This subsidiary report would have led the executive to have at once placed the responsibility for the abnormal expense cost to the heavy spoilage and low production in department 3, and therefore he could immediately, upon reading the statement, have turned to the subsidiary statement for the exact cause of the loss and have devised a quick remedy.

Labor Efficiency. The expense cost is not the only feature that should be reduced to a unit basis. Under most cost methods, the labor cost of the articles produced is so hidden in a mass of detail that it is exceedingly difficult, if not impossible, to get a comprehensive view of the labor efficiency of a department and the actual ability of the responsible foreman. The ultimate development of unit labor cost is piece work, because then there can be no variation in labor cost. Under a bonus or premium plan, a limited means of measuring labor efficiency is given by efficiency percentages in each department and the executive would get another report something like this, which will be found valuable as a means of comparison.

	Labor efficiency
Department 1	75%
Department 2	88%
Department 3	92%
Department 4	105%
Department 5	101%
Department 6	103%

These efficiency percentages are very valuable for comparisons, but they are hard to translate into terms of dollars and cents, while a labor cost report of the departments will give the exact trouble in terms of money, thus:

	Gain	Loss
Department 1	.....	$ 125
Department 2	.....	225
Department 3	.....	2,450
Department 4	$ 300	.....
Department 5	700	.....
Department 6	200	.....
	$1,200	$2,800

It is plainly evident that pressure should be brought to bear on department 3 if a normal profit throughout the whole concern is to be realized. Bringing back all of these reports to the final statement, the proper profit or loss statement in this case would be thus:

	Commodity A	Commodity B	Commodity C	Total
Sales	$50,000	$30,000	$20,000	$100,000
Manufacturing cost	46,000	23,500	15,900	85,400
Selling expense	3,500	2,100	1,400	7,000
Profit	$500	$4,400	$2,700	$7,600
Loss due to abnormal expenses				$3,000
Loss due to labor inefficiency				1,600
Net profit				$3,000

This report exhibits to the executive at the first glance the difficulties with the business. Instead of being forced to wonder why the total profit is so small, he will see at once that the loss is due to abnormal expenses and to labor inefficiency; in other words, that the sales department is not so much to blame as the manufacturing end. He does not need to speculate on the abnormal expense item nor to generalize to his subordinates. He can point out immediately from the subsidiary statements that departments 2, 3, 5, and 6 are running much higher than usual and then the subsidiary labor report illuminates that item.

The above is a very simple case, but it illustrates exactly why proper and continued profits are not to be expected without accurate accounting.

Expense Analysis. Take another case. In the old statements and among those who today are not familiar with modern accounting methods, one meets such titles as "general expense" or "selling expense," into which items sink the expenses caused by errors of judgment or extravagance and which have remained hidden from executive eyes until, at the end of the year, they merge into the profit and loss account and thus pass unheralded

into eternity. But suppose there exists a skilfully arranged expense analysis of operations, whereby comparison is made monthly with the results obtained in the previous months and during the same period in previous years. Then extravagance comes to light for intensive contemplation.

A concern which was operating in a semipublic service capacity found that in order to meet competition it would be necessary to adopt a liberal policy in deliveries and also to advertise quite heavily. The new policy was adopted in desperation and almost in the dark. Then the directors and the executives determined that they must know exactly where they stood. They had an audit of the business made by outside accountants, who also installed a new method of accounting which exhibited all phases of operating cost and not merely those related to materials or labor.

The previous accountancy on materials and labor had been fairly good, but the remaining expenditures had been tossed together under the unilluminating title of "general expense." The new method analyzed this general expense and brought revelation after revelation, and in their trail economies which ranged from the elimination of elaborate personal stationery bought in small lots for unimportant executives, to an overliberal entertainment account, excessive telephone calls, taxi bills, and the like. So great were the economies effected by cutting out useless expense, that enough money was saved to pay for the added charges under the new plan of operation and also for the advertising campaign. Out of the increased business which these progressive methods brought, a further profit has now been obtained.

Analyzing Selling and Freight. Another company found that its profit was small, although the sales had been very large. Among the high expenses were "selling" and "freight." It was the custom in that business to pay freight costs. The freight item is seldom analyzed or distributed, but this item was so large here that an investigation was made and it was apportioned territorially. Then it was discovered that in shipments to the Pacific Coast there was an actual loss on every pound of goods sold. Further digging brought out that not only was there a loss on these shipments insofar as freight was concerned, but it also demonstrated that it was an actual loss to send salesmen over the great distances.

As a consequence of these figures, an arrangement was made with a wholesale house in the West to handle the company's products on a basis of f. o. b. point of manufacture. The agent was selling other lines and could distribute the expense of salesmen among a large number of high-priced products and also could make a satisfactory agent's profit by so organizing his shipping as to be able to ship the goods in carload lots to the Coast and reshipping in mixed consignments.

A Small Item, but Nevertheless Important. A company which required and rented considerable additional storage facilities from time to time during the year, had on its property a dwelling house. This it rented to an employee. When the annual statement came through, it showed that the company was both paying and receiving rent. The executives had not before thought of the situation in that light. They then found that the dwelling house contained sufficient storage space to make it more profitable to store goods therein than to rent it for dwelling purposes at the price the company was compelled to pay for storage outside.

Here is another case in which accountancy demonstrated that it was cheaper to borrow money than to increase capital.

A group of men who had been for years in executive capacities decided to pool their resources and start a business of their own. Thoroughly knowing the selling field and also the manufacturing end, they decided that they could sell about $600,000 worth of goods during the first year. They found that they could build and equip a plant sufficient to handle such a volume or even a larger volume with an outlay of $100,000.

In this business the manufacturing cost was light as compared with the cost of the raw materials and the selling expense. It was peculiarly a seasonal business. Their purchases would extend over a period of nine months, during which time they would need a sum of $400,000 at the "peak" point of purchases, but this sum would be utilized gradually and in dividing the entire sum by the actual time employed, it appeared that they would require $400,000 for three months. That is, the interest charges on all the money that they would require during nine months would amount to interest on $400,000 during three months. This was worked out on an accountancy basis and it was settled that they would contribute $100,000 working capital and borrow $300,000.

The profit in their first year of business was $14,000, being low on account of the initial selling and organization expenses of the new business, but this was equal to 14% on the contributed working capital, the borrowed money costing them $4,500 in interest.

How the Deal Might Have Turned Out. Now, suppose these men had not had a proper exhibit of their contemplated business before them. Suppose they had not planned accurately ahead and had themselves contributed enough working capital to conduct the business. It so happened that they were amply able to contribute the capital, had they so desired. Had they themselves put in the $300,000 instead of borrowing it, they would have saved $4,500 in interest paid and therefore the net profit would have been increased to $18,500. This would have given a net profit of 4.6% on a working capital of $400,000 as against 14% on $100,000.

The $300,000 which they did not put into the business, but held in reserve in their own individual strong boxes, they found had netted them as individuals an average income of 5½% or $16,500. Therefore by using borrowed money instead of their own money they made $12,000 over and above what they would have made had they undertaken to finance themselves. That is, mingling for the moment the funds which they placed in the company and the funds which they kept for themselves, they had a net profit of 7.6% as against a possible 4.6%.

Planning the Business Ahead. Had these men not been in possession of a lucid system of accounts, it is safe to say that they could never have discovered the profit that lurked in borrowed money and certainly they could never have borrowed the money had they not been able to put their case conclusively before the note broker or financiers in detailed figures to prove the soundness of their enterprise as well as their business judgment.

The whole financial structure of any business is founded on the accounting—not merely on the tabulation of the receipts and the expenditures, but on that coordination which permits an intelligent grasping of relations and therefore a coordination of the work in hand, the moneys, and the profits. In other words, it permits planning.

Planning is more than a device to promote regular deliveries; it has greater commercial value than securing the good will of customers; planning is the very pith of profitable business.

Manufacture is a form of wealth production which operates by increasing the utility of the raw material it receives. In the process, part of the increased value becomes the compensation for the success of the venture and its impetus as well.

Capital is involved in the scheme, but the capital is of two very distinct kinds, namely, fixed and fluid. The fixed capital is represented by buildings and equipment; the fluid is usually known as the working capital. Innumerable—indeed most—commercial difficulties or failures are traceable to inadequate, insufficient, or insolvent working capital.

The provision and disposition of working capital is the essence of commercial success. And here it is that the connection is found between planning and finance.

Planning operates chiefly to conserve the engagement of working capital, to expedite its return to the initial point of that cycle represented by the processing and sale of goods or merchandise. It is directed primarily to minimize the capital represented by goods in process and to accelerate the turnover.

Rapid Development Demands Plenty Capital. A company had been about doubling the volume of its business yearly for almost a decade. The greatest worriment which accompanied this rapid development was the provision of sufficient working capital. The situation became so acute that outside advice was sought and, as a result, an examination was made of the conditions, and from it the following facts were developed:

The process inventory amounted to about $800,000. The rate of production was about $300,000 a month in terms of cost value of finished product. The average turnover is indicated by the following formula: $800,000 ÷ $300,000 = 2.6 months, or 80 days. The company carried no finished stock but delivered directly from manufacture.

Careful study of the processes and the time elements revealed that a very workable turnover would be about 30 days. They needed the tight control and coordination of a planning system.

A simple but effective scheme of planning was installed and in the course of a year the same volume of production ($300,000 monthly) was carried on a process inventory of $450,000. This turnover is represented by this formula: $450,000 ÷ $300,000 = 1.5 months or 45 days; a reduction of the previously prevailing period by 35 days—in that year the process stock was turned over more than twice as many times as in the previous year.

This meant the same profit with about half the working capital or twice the profit with the same working capital, if the volume would again be increased.

The foregoing examples are not given as part of a comprehensive scheme by which accountancy can make for profits but merely as hints of the many directions in which it operates—to show the business man a little of what mere books can do.

The thought is this; most business ills, like most human ills, are due to hidden causes; until the cause is known, only empirical remedies can be applied. But once the cause is found, then the scientific antidote can be had. Accountancy locates the real causes and points the way to the proper remedy.

An X-ray photograph does not of itself mend the broken bone, but it does tell the exact nature of the injury and permits the physician to proceed with precise knowledge. Accounting is the X-ray of business—it permits the owner to diagnose and hence to heal the disorder.

CHAPTER III

THE ESSENTIALS OF BOOKKEEPING

THE mechanics of bookkeeping have traveled far since the days when good bookkeeping had rather to do with the appearance of the neatly ruled, immaculately written, red-inked pages, than with their actual contents. The efficient bookkeeper was the man who never made a smudge on the page nor a mistake in addition or subtraction. He was not expected to, and, in fact, did not comprehend within his heavy leather volumes more than a record of transactions. He knew little more about the actual condition of the business that employed him, than does the adding machine of today.

I remember one such bookkeeper who was noted for his accuracy and faithfulness; he was held up everywhere as a model of his calling, and was in much demand of nights among lawyers to prepare the accounts of estates for them. But that man browsed amongst his tomes during three years while his concern was losing money so rapidly that it became a bankruptcy cropper—and he never even sensed that the company was in trouble. He had taken the figures given him by the officers, entered them without question, and blissfully made up bank statements on the strength of the figures—bank statements that would have landed him in jail had not the creditors been lenient, for he held the *pro forma* title of treasurer, and as such signed the statements.

That sort of bookkeeper has passed out of the well managed, modern office; many of the formerly cherished records have also gone, and machines have largely replaced the beautiful chirography of old, but the fundamental idea or theory of bookkeeping has not changed. Whatever the present-day refinements and conveniences, they all relate back to the ancient axiom that every debit must have its credit—to the double entry system.

Many readers are probably familiar with the fundamentals of bookkeeping, and for them a discussion, which must needs

be elementary, is scarcely necessary. The man who has passed the kindergarten of accountancy will do well to skip this chapter, for it is frankly of a primary nature.

But there are many others who will want to brush up, even if ever so slightly, on their knowledge, or who, through the use of card systems or so-called short-cut methods have lost track of simple bookkeeping.

Rehearsing the Primary Principles of Accounting. One cannot be too familiar with the primary principles; a surprising number of seemingly intricate problems resolve instantly into their elements when we diagnose them according to the maxims.

I therefore think it best to start with the assumption that the reader knows nothing of bookkeeping, and then go step by step into the higher grades.

I have chosen my examples largely from manufacturing, but only because the concern which both manufactures and sells has nearly all the problems of bookkeeping. The fundamentals do not change with the character of the business. The man who learns fundamentals from examples drawn from a business of a type different from his own, will know these principles far better than if he studied them in his own affairs.

No one can intelligently use a set of forms unless he also knows all of the reasons behind the forms. No end of failures result from the unquestioning adoption of standard methods; for unless you know the "why" of the method, you cannot check your mistakes. Forms are most useful, systems are invaluable, but they must be taken as suggestions of better methods, not as substitutes for the foundation knowledge.

The Single Entry System. Why do we enter business? To make a profit. That is the sole end of business. The profit is made through the exchange of commodities for a higher price than that at which we purchased them, either through a sale of them unchanged or through a fabrication and sale; the profit may be concealed under another name such as commission or brokerage, and we may never have title to that which we sell, but the principles of procedure are broadly identical. We gain either through an added price to the buyer or by an allowance from the seller.

Thus there are three steps in business—buying, holding for sale or for manufacture and sale, and selling. The steps are

represented by three classes of accounts—those with our creditors, those with the business, and those with our debtors or customers. The first and the last of these accounts are with individuals; they tell us what we owe and what is owed to us; the second account is that of the operation and is with things instead of individuals—is with portions of the business.

What Accounting Should Include. Accounting should comprehend the whole history of a business, and tell us why we make or lose money. If it fails in that information, it is not accounting. The single entry system deals only with individual accounts and not with business accounts, and therefore it does not give a commercial record and is not to be considered as accounting. And the situation is not changed by having the single entry plan elaborated by mechanical or other contrivances; if there are no accounts with the business, there can be no proper record of its affairs and we cannot know our progress.

The system gets its name from the fact that only entries for individuals are made—they may be made in more than one place, but only in a single form.

The Basis of Proper Accounting. The basis of the "entire" proper accounting structure is the double entry system of bookkeeping, because of its expositions and its numerous checks and safeguards designed to reduce to a minimum the chances of loss through the inevitable errors and inadvertences of clerks.

No business, no matter how small, can safely go forward unless controlled by some form of the double entry system. The single entry plan is an invitation to loss—to a serious loss of profit, serious because it will never be detected unless by accident, for single entry does not tell the "why" and the "how." The difference between the two plans is basic; it is important to grasp clearly the antipodal foundations, and this can best be done by concrete example.

But three books are necessary for single entry bookkeeping—a day book or journal, a ledger, and a check book which also acts as a cash book. Take a simple transaction. John Brown embarks in the business of buying and selling potatoes with a cash capital of $32, all of which he lays out in a stock. The facts covering these transactions are entered in the day book or journal as shown in Form 1.

At the end of the day, these accounts are posted to ledger accounts, which then appear as in Forms 2 and 3.

June 8, 1918		
Bought of John Brown 10 Bu. Potatoes	@ 3.20	32 00
Sold to Abram Morris 5 Bu. Potatoes	@ 3.50	17 50
June 20, 1918		
Paid John Brown Received of Abram Morris		32 00 17 50

Form 1

JOHN BROWN						
6/20	See Ck. Bk. No. 627	32	00	6/8	10 Bu. Potatoes @ 3.20	32 00

Form 2

ABRAM MORRIS						
6/8	5 Bu. Potatoes @ 3.50	17	50	6/20	See Ck. Bk.	17 50

Form 3

On the check book stub is recorded the reason for the drawing of each check, and on the opposite blank page facing the stub are recorded the receipts in detail. The single entry system does not take into recognition an initial cash capital of $32, excepting to record it in the check book. Under the single entry, the only method of arriving at profit or loss is by taking the excess of the assets over the liabilities, or vice versa. The assets are compiled from the amounts known to be due from debtors, cash in hand, and inventory. The liabilities are arrived at by footing up the bills which are owed. The result is the standing of the firm. But there being no check or fashion of proving the reckoning's accuracy, it is impossible to trace an error.

Suppose that, in the above instance, the clerk sold potatoes to the value of $1.75 to one Jones, and made another sale of a

like amount to one James, and forgot to record either transaction in the day book or journal. At the end of the month the merchant would take his trial balance to discover whether he has lost or made money.

He has cash in the bank to the sum of $17.50, this being the initial capital plus the amount paid by A. Morris and less the amount paid to Brown; he has on hand potatoes to the value of $12.80 according to their purchase price, making total assets of $30.30. Clearly his original capital has been impaired by a loss of $1.70. The loss is due to the failure to record total sales of $3.50 to Jones and James. There is nowhere on the books an entry which might give a clew to the reason for the loss—it might have been due to an error or to theft; the tradesman can take his pick. He must rest with the knowledge that he has suffered a loss.

From this very simple instance it can readily be deduced that any comprehensive system of accounting, based on single entry, is impossible. The oversight of the clerk in this instance presents endless possibilities for multiplication as the business becomes more voluminous. As the opportunity for error increases, the chances of discovering the omission become less and it soon becomes apparent that such a system becomes inadequate.

The Double Entry System. The single entries did not reckon with other than the buying and the selling of the merchandise—they did not note that the potatoes had come into the business and that some of them still remained. We know only by actual count that some of them were on hand. In other words, the critical operation—the passing of the merchandise through the business—was entirely neglected. This defect is supplied by the double entry system.

In addition to the accounts with individuals, we now have accounts with the business itself which record the coming in and the passing out of merchandise and money. The new accounts are called the "business" or "nominal" accounts. When we take anything into the business we debit one of these accounts, and when we withdraw anything, we make a credit. They are founded on the theory that the business is an entirety in itself, and that the real records are not of our own personal dealings, but of the business; in the former plan we had taken a personal stand—that only what we bought or sold was of sufficient importance to chronicle.

Now each portion of the business takes an account of its own —merchandise, expense, sales, and so on—recording that which comes in and that which goes out. Hence each transaction has two entries, one credit and one debit. There must be a supporting debit for every credit, and vice versa.

Debit and Credit. A debit is a characterization of that which comes into the business or causes something to go out of the business. For instance, cash is received and is therefore debited in the cash account. The reason for the cash having been received is that merchandise has been sold—the merchandise has gone out of the business. The one offsets the other. A credit is given for that which goes out of the business, or causes something to come into the business. Cash has gone out of the business through the purchase of merchandise. Therefore the merchandise has come into the business and the debits and credits will always total an identical amount. These nominal accounts are the source of the checks and balances, and permit the exact location of errors.

Operation of Double Entry. The elementary or basic books required in a simple system are as follows:

1. Journal. This is identical in form with the single entry book of the same title, and may be used for recording purchases and sales other than for cash, and such adjusting and year-end closing entries as are needed.

2. Cash Book—in which are recorded all of the receipts and disbursements; in the single entry system, these were covered in the check book.

3. Ledger. This is the controlling book of the double entry system, and to it are posted all entries appearing in the journal and cash book.

The operations just given in single entry would be recorded under double entry as shown in Forms 4 to 10 inclusive.

Take these entries in detail. Merchandise has come into the business to the value of $32; the purchase, therefore, is recorded in the journal to the debit of merchandise. There must be a corresponding credit. The goods were purchased from John Brown. Therefore he receives a credit of $32. These two entries are to be posted to their proper accounts. The merchandise that has been received is posted to the merchandise

JOURNAL

1918			Debit	Credit
June	8	Merchandise	32 00	
		John Brown		32 00
		Purchase of 10 Bu. Potatoes @ 3.20		
"	20	Abram Morris	17 50	
		Merchandise		17 50
		Sale of 5 Bu. Potates @ 3.50		

Form 4

CASH BOOK

1918			Debit	Credit
May	31	Cash	32 00	
		Capital		32 00
June	20	Cash	17 50	
		Abram Morris		17 50
		John Brown	32 00	
		Cash		32 00

Form 5

(Ledger)

Merchandise

Date 1918		Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
June	8	10 Bu. Potatoes	Jo	32 00	June 20	Sale 5 Bu. Potatoes	Jo	17 50

Form 6

(Ledger)

JOHN BROWN

Date 1918		Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
June	20	Cash	C.B	32 00	June 20	Pur. 10 bu. Potatoes	J.	32 00

Form 7

(Ledger)

A. Morris

Date 1918	Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
June 8	Sale 5 Bu. Potatoes	Jo	17 50	June 20	By Cash	CB	17 50

Form 8

Cash

Date 1918	Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
May 31	Capital	CB	32. 00				
June 20	A. Morris	CB	17. 50	June 20	J. Brown	CB	32. 00

Form 9

Capital

Date 1918	Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
				May 31	Cash		32 00

Form 10

Trial Balance

	Debit			Credit	
Merchandise	14	50	Capital	32	00
Cash	17	50			
Total	32	00	Total	32	00

Form 11

account in the ledger; and the credit of John Brown is posted to that gentleman's account.

The sale to A. Morris receives its initial record in the journal. As credit has come into the business through the sale of 5 bushels of potatoes to the value of $17.50, Mr. Morris is debited in the

journal by that amount, and the merchandise from which his purchase was taken is credited with a like amount. These are then posted to the ledger accounts. The merchandise having been moved, that account receives $17.50 credit, and Morris, being indebted in the sum of $17.50, appears in the ledger as an "account receivable" for that sum.

The receipt of cash from A. Morris of the amount of his bill and also the payment to John Brown, are treated in exactly the same manner as the former transaction of merchandise, the initial entries going, however, into the cash book and from the cash book are posted to the cash account in the ledger. The detail accounts of the sums due to and from the individuals are closed out by these two transactions.

The month having ended (or whatever period for closing the books may be chosen) a trial balance is taken off, which would appear as in Form 11.

This balance shows that there should be merchandise on hand to the value of $14.50, but an actual inventory being taken, it is discovered that the value of the merchandise on hand is only $12.80. There is therefore a loss of $1.70, the reason for which is not disclosed. An examination of the ledger accounts, however, shows that the loss must be there—merchandise has been removed without a record having been made.

In the single entry system, the only fact disclosed was that $1.70 had in some way been lost, but by reason of the double entry system that missing item is traced directly to the withdrawal of merchandise. This leads to an inquiry, which will bring out the sales to Jones and James in the sum of $1.75 each, which the clerk had forgotten to record.

This loss has been traced by reason of the nominal account of merchandise contained in the ledger. The ledger controls all of the detail accounts, and permits either the exact location or the segregation of an error.

The Ledger. A double entry system may be compared with a tree, the trunk of which is the ledger and the branches the other records, which in number and in size depend upon the size of the business, the variety of its effort and the number of divisions which the larger or more complex business requires.

Because in double entry every debit must have a credit, every posting into the ledger on the debit side of some account is offset by the posting of a like amount to another account. Con-

sequently, it is from the ledger that a trial balance is taken. The books are considered as substantially correct if the total of the ledger debit balances agrees with the total credit balances.

Why "Subsidiary Ledgers" are Necessary. The larger the business, the fewer are the items in the ledger; it would become unwieldy were all the items carried thereto. Instead are opened what are termed "subsidiary ledgers"; these are detailed accounts, only the totals of which are carried forward to a general ledger. For instance, take the merchandise account; in the simple example above given, this account carried both the purchases and the sales of merchandise, and only after the inclusion of a physical inventory was the profit determined. In the larger concern, the purchases and the sales should be carried in different accounts from which could be determined the amount of purchases or sales through any given period.

Business today is complex; in many lines, the ordinary man must always know where he stands; he must know what is selling best—it is not enough to know sales totals. But if the purchases and sales of merchandise are carried wholly in the merchandise account, he cannot make a sales analysis without infinite labor in a business of even moderate size. A large concern may easily make 1,000 purchases a day, and 10 times that number of sales.

Obviously, a single inclusive account of all this merchandise would be so cumbersome that, unless by great effort, it would give no aid whatsoever to an intensive study of lines, and it would not even be correct in total without considerable adjustment. Neither the purchases nor the sales in this one account would show the goods that had been returned by one or the other of the parties. Therefore the merchandise account is now commonly divided into whatever sections the business demands. The division totals then form intelligible records. For instance, a druggist would find it desirable to make separate divisions for his patent medicines, candies, stationery, and so on. This division would show him at a glance the line which was not doing well, and lead him to improve the stock in that line or to force selling through window displays or other advertising, or to withdraw the line from sale.

It is in the subdivision of accounts and consequent analysis that the greatest accounting progress has been made; without such subdivision big business could not be conducted; for big

business travels on such a narrow margin of profit and depends so much upon rapid turnover, that every fact must be known in detail—and at once.

It is advisable not only to subdivide purchases of material which are to be again sold in some form or other, but also to subdivide and properly distribute purchases of that which aids in doing business—fixtures, machinery, and the like. The larger the business, the more necessary the subdivisions.

Some Modern Changes in Method. Let us instance a purchase by a small company of a few articles of furniture and fixtures. If the purchase is made for immediate cash, furniture and fixtures are debited because the articles came to the company, and cash is credited because cash of a similar value has gone out. Both cash and furniture and fixtures are posted to the ledger, the former to the credit of its account and the latter to the debit. Therefore, upon the debit side of the ledger, there appears the information that furniture and fixtures of a certain value have been purchased and exist.

In a small company containing one office, the above information is sufficient, and such additions as may be made to the fixtures from time to time can be added to the same account, that account therefore always depicting the cost of the articles purchased. In a large corporation maintaining a large number of branch offices, the information that it possesses furniture and fixtures of a certain value would not give desired information to the executives. One hundred thousand or a million dollars' worth of furniture carried in one account will not give the reader of the statement or the student of the account much of a conception as to whether the sum is large or small, or where the property exists, unless the student has the inclination and the time to analyze each entry added to the account, which may at times carry him into a study of transactions covering many years.

Big companies such as the United States Steel Corporation, the Standard Oil Company, the American Bridge Company, and others, would probably carry a furniture and fixtures register. In this would appear separate pages for each city or each office, and occasionally a subdivision of the office to show the type of furniture or fixtures. The purchases are posted in detail to the office affected, and only the total carried to the general ledger; but to insure accounting accuracy, the total of the subledger or furniture and fixtures record would have to agree with the total

of the single account in the general ledger. The account in the general ledger would become the controlling account.

It is in the above fashion that controlling accounts are created, and they can be multiplied to almost any extent. In a large business, one clerk can be given a certain section of the work, and the company's principal accountant, who maintains the general ledger, can check the accuracy of his subordinate by requiring, periodically, the total of the subsidiary accounts. This total must agree with the controlling account of the general ledger, and that general ledger, in turn, is proved correct or in error by a trial balance.

The Main Functions of the General Ledger. These are the two main functions of the general ledger. In a small business, it is a repository for all entries, and in large business, for the totals of all entries, the details appearing upon subsidiary books. In both cases, either as individual figures or as totals, the aggregate of all entries finds its way into the general ledger.

The general ledger is indispensable to business. It is probably the only book that time has not greatly changed in form. The general ledger of the man who runs a little garage need differ only in volume of the accounts from that of the Standard Oil Company, from which he buys his gasoline.

Of the basic books, aside from the general ledger, there are two others which are practically indispensable, though their form varies. One is the cash book, and the other is the day book or journal. Of the two, the cash book, in principle at least, is less subject to variation. It chronicles only such transactions as have to do with cash received or disbursed. The day book or journal is, among larger business, falling into disuse. It was originally conceived to handle all entries that could not be handled through the cash book, and the entries in both books were posted to the ledger.

At one time, the day book or journal—and frequently both were maintained—was used to record purchases, sales, and the closing entries of the year. It was also made the medium through which errors were corrected and allowances entered to the credit of customers.

A purchase was entered upon the journal by crediting the individual from whom purchased and by charging the material either to the material account affected or to an account known as "merchandise," into which practically everything that was

a part of the business of selling and buying was thrown. The result was a balance, but also an utter lack of information beyond the bare profit or loss that resulted at inventory-taking time.

The Passing of the Day Book. The day book was originally made to record sales, the individual to whom the sale was made being debited and the merchandise account credited. As a rule, the detail of the sale was entered so that the day book became a long list of copies of invoices. The inefficiency of such a method of recording can easily be grasped when we consider the thousands of bills sent out in one day.

Copying each bill in longhand in a day book makes the task almost prohibitive from the standpoint of clerical expense. The day book has given way to carbon copies of invoices or to other mechanical means, by which most sales are recorded, and at this writing the day book is almost as extinct as the dodo.

In themselves, the books mentioned constitute an entire set with which any company could today start business. They would give accurate results from an accounting standpoint, but they would convey very little information. Therefore, although the general ledger still exists as the final resting place of entries, modern business has devised one record after another to reduce the multitudinous entries required by the old-fashioned books.

The various elaborations and extensions of the modern systems, as well as the labor-saving cuts, will be taken up, each in its proper place, in succeeding chapters.

CHAPTER IV

OPENING THE BOOKS

A BUSINESS should grow into its records; no accountant, however experienced, is justified in planting a complete set of records on a concern before it has started operations. We may think that we know all that will be required, but I find that each business has its own personality, and that it is generally better practice to start only with the essential records, and then amplify them as trade increases. This applies both to the general trading accounts and to the special partnership or corporation accounts.

The best modern bookkeeping practice abhors rigid "systems," because fitting a business to a system always results in waste. This is not to say that fundamentals change—they do not. But systems are largely concerned with details, and the details—the short cuts and the labor-saving devices—will change with the particular work in hand. It is quite simple then that by understanding the end which you wish to attain, you can take or leave that which you find essential or non-essential in your affairs.

Fundamentals Apply Equally to Small and Big Business. Whatever may be the nature or the size of your business, the fundamentals of accountancy will always apply. Do not be misled into the thought that the big corporation is proceeding upon a different principle from the correctly accounted small retail store; both are following precisely the same maxims and the only differences are in detail—the big business has a hundred accounts where the small one has a single account. Possibly big business cannot learn much from small accountancy, but undoubtedly the man with hundreds of dollars where the corporation has thousands, can learn much of the right method from his big brother. The large corporations have the money to buy expert assistance in forming their accountancy, and their procedure is always worth study.

If you keep in mind the fundamentals, you can possibly pick out something for your own use from the practice of almost any well-managed enterprise. The idea prevails that adaptation may be made only from examples taken from enterprises of like kind and size. If that notion had been universal, business would never have progressed. The men who become successful are those who know a good thing wherever and however they see it.

The Necessary Records at the Start. The books which the average business will absolutely require at its inception are but three in number—journal, cash book, and ledger.

Let us look at them in use—as in actual business life. Take a hypothetical concern which we shall call the Specialty Company. It will begin as a partnership and then change into a corporation—which is the usual progress of commercial activity. We shall have initially only these three books of record.

It should be observed, however, that because an enterprise is in its infancy, it need not also select methods out of the infancy of bookkeeping. The illustration is so shaped only because of a desire to contrast the primitive methods with the better and more advanced; in actual practice, one would probably start at the point of development which seems best suited for the then needs of the business, with the thought always in mind that trading and not bookkeeping is the primary object of venturing into commerce.

THE SPECIALTY COMPANY

George Robinson, Henry Corey, and Peter Starr each invest $10,000 in a partnership venture under a written agreement by which profits and losses are to be shared alike, interest on the investment at 6% is to be allowed, but no salaries are to be drawn until the business has proved itself. They will manufacture and sell specialties.

The initial entry is the recording of the cash received as having come into the business and the opening of the proprietors' accounts, giving them credit for their individual investments. The entry will be made in the cash book as shown in Form S1.

Under these items will be placed a note setting forth the essential facts of the partnership agreement, and it is recommended that the note be signed by all the parties and witnessed by the bookkeeper or accountant. The abstract in the present case will be as follows:

To record the investment of the following gentlemen in the Specialty Company, in accordance with a copartnership agreement entered into by Messrs. Robinson, Corey, and Starr as of January 2, 1918; whereas no salaries are to be drawn until the business warrants such withdrawals, but interest at 6% is to be allowed. This agreement is considered binding on all parties.

CASH BOOK

1918			Debit			Credit		
Jan.	2	Cash	30	000	00			
		George Robinson, Prop. ac.				10	000	00
		Henry Corey, " "				10	000	00
		Peter Starr, " "				10	000	00

Form S-1

It is highly important that the accountancy facts of a partnership be placed upon the books with the initial entry. The presence of this guide makes impossible a satisfactory explanation of any subsequent change in the manner of distribution between the partners, without a further formal undertaking. In many cases, where all of the partners have not been equally diligent, the active partners have drawn money from the business in violation of the agreement. The contemporaneous interpretation of an instrument by its signatories is the highest evidence of what they really intended. Thus, were the original agreement lost, the distribution on the books would probably control its oral reconstruction.

As the years pass, many disputes may arise in partnership affairs and the books should, insofar as possible, be self-contained and without need of explanation from extraneous sources.

Regarding the Capital Transactions. The next entries after the formal record of the capital contributions, will be the capital transactions. These are entered in a cash book with a ruling similar to the journal. It is assumed that the more elaborate and better-designed cash book has not been obtained to record these essential details.

The cash book and journal entries are shown in Forms S2 and S3.

These items are now posted to their proper accounts in the ledger, the pages of which take on the appearance of those shown in Forms S4 to S14 inclusive.

CASH BOOK

1918			Debit			Credit		
Jan.	2	Cash	30	000	00			
		George Robinson, Prop. Ac.				10	000	00
		Henry Corey, " "				10	000	00
		Peter Starr, " "				10	000	00
	5	Buildings and Equipment	18	500	00			
		Furniture and Fixtures		900	00			
		Cash				19	400	00
		(which records the purchase of property for cash)						
	11	Materials and Supplies	6	100	00			
		Cash				6	100	00
		(wherein goods for resale or manufacture are bought for cash)						
	27	Cash	10	000	00			
		Bond and Mortgage				10	000	00
		(to raise money, a mortgage has been given)						
	31	Payroll		950	00			
		Cash					950	00
		(being the payment of wages)						
	31	Expense		325	00			
		Cash					325	00
		(recording other disbursements for general items, such as rent, telephone and so forth)						

Form S-2

JOURNAL

1918			Debit		Credit	
Jan.	31	Interest on Investment	150	00		
		George Robinson			50	00
		Henry Corey			50	00
		Peter Starr			50	00
		(Whereby the proprietors are credited with their 6%)				

Form S-3

(Ledger) Peter Starr

Date	Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
				Jan. 2	Investment		10 000 00
				" 31	Interest on Inv.		50 00

Form S-4

Bond and Mortgage

Date	Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
				Jan. 27	Cash		10 000 00

Form S-5

Payroll

Date 1918	Items	Fol.	Debit	Date	Items	Fol.	Credit
Jan. 31	Cash		950 00				

Form S-6

Expense

Date 1918	Items	Fol.	Debit	Date	Items	Fol.	Credit
Jan. 31	Cash		325 00				

Form S-7

Interest on Investment

Date 1918	Items	Fol.	Debit	Date	Items	Fol.	Credit
Jan. 31	G. Robinson		50 00				
	Peter Starr		50 00				
	Henry Corey		50 00				

Form S-8

Cash

Date 1918	Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
Jan. 2	G. Robinson		10 000 00	Jan. 5	Bldg. and Equipment		18 500 00
	Henry Corey		10 000 00	5	Furn. and Fixtures		900 00
	Peter Starr		10 000 00	11	Mat'l and Supplies		6 100 00
27	Bond and Mtg.		10 000 00	31	Payroll		950 00
				31	Expense		325 00
				31	Balance		13 225 00
			40 000 00				40 000 00
Feb. 1	Balance		13 225 00				

Form S-9

Buildings and Equipment

Date 1918	Items	Fol.	Debit	Date	Items	Fol.	Credit
Jan. 5	Buildings and Equipment		18 500 00				

Form S-10

Furniture and Fixtures

Date 1918	Items	Fol.	Debit	Date	Items	Fol.	Credit
Jan. 5	By Cash		900 00				

Form S-11

Materials and Supplies

Date 1918	Items	Fol.	Debit	Date	Items	Fol.	Credit
Jan. 11	Purchased		6 100 00				

Form S-12

George Robinson

Date	Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
				Jan. 2	Investment		10 000 00
				31	Interest on Inv.		50 00

Form S-13

Henry Corey

Date	Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
				Jan. 2	Investment		10 000 00
				31	Interest on Inv.		50 00

Form S-14

It is next in order to construct a trial balance from the general ledger accounts, as of January 31. The method followed is illustrated in Form S15.

Trial Balance

Date: January 31, 1918

	Debit		Credit		
Cash on Hand	13 225 00		G. Robinson, Investment	10	050 00
Buildings and Equipment	18 500 00		Henry Corey, "	10	050 00
Furniture and Fixtures	900 00		Peter Starr "	10	050 00
Materials and Supplies	6 100 00		Bond and Mortgage	10	000 00
Payroll	950 00				
Expense	325 00				
Interest on Investment	150 00				
Total	40 150 00		Total	40	150 00

Form S-15

When More Money Is Needed. Having examined their trial balance, the partners arrive at the conclusion that they will need more money to do the business which they see ahead. Being forehanded men, they decide to anticipate the requirements of finance. They have already borrowed on bond and mortgage to as large an amount as their property will carry. The new money is needed for capital requirements, and hence

cannot properly be borrowed on a current obligation—it will not be money that can be paid out of the profits without seriously interfering with the steady progress of the business. Hence they decide to interest new money. They might search for a new partner, but four owners are too many in a small business. In addition, it is always more difficult to have an outsider invest through partnership participation than through stock ownership, because a partner, unless taken in under a special or limited form, is personally liable for all the debts of the association in the event of bankruptcy, while a stockholder in a corporation has no personal liability (except in some states by statutes which impose liabilities upon the stockholders for certain transactions in certain kinds of corporations). Therefore, they find a buyer for the stock which they intend to issue.

To record the necessary transactions, together with interest accruals, and so on, the entries shown in Forms S16 and S17 were made.

JOURNAL

1918			Debit			Credit		
Feb.	28	Capital Stock Unissued	100	000	00			
		Capital Stock Authorized				100	000	00
		Common Capital Stock Authorized at directors' meeting held Feb. 21, 1918						
"	28	Interest on Investment		150	00			
		George Robinson					50	00
		Henry Corey					50	00
		Peter Starr					50	00
		(Whereby the second month's interest is credited to the proprietors)						
"	28	George Robinson, Investment Account	10	100	00			
		Henry Corey, " "	10	100	00			
		Peter Starr, " "	10	100	00			
		Capital Stock Unissued				30	300	00
		(Whereby the former partners take stock for their capital investment, as indicated by their ledger accounts. Note that the original capital has been augmented by accrued interest)						
"	28	Interest		41	67			
		Interest Accrued on Mortgage Payable, 1 month at 5%					41	67
		(This is to place on the books an indebtedness to those from whom money was borrowed on the mortgage given on property)						

Form S-16

CASH BOOK

Date 1918			Debit			Credit		
Feb.	28	Payroll	1	217	50			
		Expense		457	50			
		Materials and Supplies	2	350	00			
		Cash				4	025	00
		(Being ordinary transactions of the business the same as in January. The Payroll, Expense Items, and Material and Supply purchases, were all settled by cash payments. In actual practice, the items shown here would probably be divided into many small entries, such as four weekly payrolls, several dozen expense items, and a large number of material and supply bills. We show the aggregate only, as an example)						

Form S-17

The results of the additions of the February transactions are reflected in the ledger accounts. These are now as shown in Forms S18 to S31 inclusive.

Cash

Date 1918		Items	Fol.	Debit			Date 1918		Items	Fol.	Credit		
Feb.	1	Balance		13	225	00	Feb.	28	Sundries		4	025	00
									Balance		9	200	00
				13	225	00					13	225	00
Mar.	1	Balance		9	200	00							

Form S-18

Buildings and Equipment

Date 1918		Items	Fol.	Debit			Date		Items	Fol.	Credit		
Feb.	1	Balance		18	500	00							

Form S-19

Furniture and Fixtures

Date 1918	Items	Fol.	Debit	Date	Items	Fol.	Credit
Feb. 1	Balance		900 00				

Form S-20

Materials and Supplies

Date 1918	Items	Fol.	Debit	Date	Items	Fol.	Credit
Feb. 1	Balance		6 100 00				
28	Purchased		2 350 00				

Form S-21

George Robinson

Date 1918	Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
Feb. 28	Capital Stock		10 100 00	Feb. 1			10 050 00
				28	Interest on Inv.		50 00
			10 100 00				10 100 00

Form S-22

Henry Corey

Date 1918	Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
Feb. 28	Capital Stock		10 100 00	Feb. 1			10 050 00
				28	Interest on Inv.		50 00
			10 100 00				10 100 00

Form S-23

Peter Starr

Date 1918	Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
Feb. 28	Capital Stock		10 100 00	Feb. 1			10 050 00
				28	Interest on Inv.		50 00
			10 100 00				10 100 00

Form S-24

Bond and Mortgage

Date	Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
				Jan. 27			10 000 00

Form S-25

Interest Accrued

Date	Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
				Feb. 28	On Mortgage		41 67

Form S-26

Capital Stock Unissued

Date 1918	Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
Feb. 28	1,000 shares $100 each		100 000 00	Feb. 28	G. Robinson		10 100 00
					Henry Corey		10 100 00
					Peter Starr		10 100 00
					Balance		69 700 00
			100 000 00				100 000 00
Mar. 1	Balance		69 700 00				

Form S-27

Capital Stock Authorized

Date	Items	Fol.	Debit	Date 1918	Items	Fol.	Credit
				Feb. 28	1,000 shares $100 each		100 000 00

Form S-28

Payroll

Date 1918	Items	Fol.	Debit	Date	Items	Fol.	Credit
Jan. 31	Cash	CB 1	1 950 00				
Feb. 28	"	CB 2	1 217 50				

Form S-29

Expenses

Date 1918	Items	Fol.	Debit	Date	Items	Fol.	Credit
Jan. 31	Cash	CB 1	325 00				
Feb. 28	"	CB 2	457 50				

Form S-30

Interest

Date 1918	Items	Fol.	Debit	Date	Items	Fol.	Credit
Jan. 31	On Investment		150 00				
Feb. 28	" "		150 00				
28	Mortgage Payable		41 67				

Form S-31

The journal entries were made on the assumption that the par value of the capital stock is $100 per share. It is self-evident that any par value may be treated in the same manner.

Of late years, several of the states have admitted a new form of stock which has not an arbitrary par value. This is known as stock of "no par value." Its worth is determined by the net worth of the corporation or, if sold, by the amount received

therefor. If there were 100 shares of stock of no par value and they sold for $1,000, the entry would be according to the form as shown in Form S32.

CASH BOOK

Date 1918			Debit	Credit
Feb.	28	Cash	1 000 00	
		Stock Account		1 000 00
		Sale of 100 shares of stock of no par value for $1,000		

Form S-32

In the transition from the partnership to the corporation, the entries show the credits to the individual accounts for the accrued interest on the investment, and these partnership investment accounts have been closed out by the issue of capital stock. The partnership agreement no longer exists, and the conduct of the business now depends upon the organic law of the corporation which is expressed in the statutes of the state of incorporation, the charter of the company, and its by-laws. These entries have been posted to the ledger accounts to show the closing of the partners' accounts and the establishing of the two new accounts which represent the capital stock. After all these transactions are recorded, another trial balance is given as of February 28, 1918 (Form S33).

Trial Balance

Date: February 28, 1918

	Debit		Credit		
Cash on Hand	9 200 00		Bond and Mortgage		10 000 00
Buildings and Equipment	18 500 00		Interest Accrued		41 67
Materials and Supplies	8 450 00		Capital Stock;		
Furniture and Fixtures	900 00		Authorized	$100,000	
Payroll	2 167 50		Unissued	69,700	
Expense	782 50		Issued		30 300 00
Interest	341 67				
Total	40 341 67		Total		40 341 67

Form S-33

This chapter deals with the beginning of the partnership and the change into corporate form. The further history will be carried forward at the close of each chapter on the various phases of business and their proper and most convenient recording.

CHAPTER V

EFFECTIVE PURCHASING METHODS AND RECORDS

BUSINESS begins with a purchase. Therefore accountancy may be taken to begin with the recording, in some form or other, of a purchase. We are apt to think of business as consisting largely of selling, and sometimes to regard the steps which lead up to the sale as unimportant. But good business starts with good buying and, under normal economic conditions, there cannot be profitable merchandising or manufacturing without good buying. Any accounting that makes for better profits will start with the recording and regulating of purchases.

Although sales may often be found recorded in elaborate style, far too little attention is given to the accountancy of buying. A well-balanced, active stock is the foundation of the rate of turnover—which is the foundation of business profit. A true grasp of the rate of turnover cannot be had without accurate accounting of such a nature that it will not only check all purchases, but will keep them in exact coordination with the selling policy and the sales.

Just as an army travels on its stomach, so does a business travel on its purchases. The buying may be small in quantity or in value or it may comprehend thousands of articles, as in a department store or some factories; but, simple or complex, this primary principle must be kept in mind: Proper accounts furnish the reasons for and the measure of buying and are not to be regarded merely as a tally of what has been bought. Many selling losses are to be traced back to bad buying.

Hidden Purchasing Losses. Purchasing losses may be found in price or quality, again they may be in quantity, or, finally, they may be traced to buying something which is not needed. Purchases do not stand alone, but reach out through the whole business and are delicately adjusted to its every part.

There is nothing of "I buy" and "he sells" in well-organized establishments.

Lest it may be imagined that good buying must be confined to large business that can have the most suitable departmental division, let it be said now that every individual engaged in commerce is divided into his own different departments even though the transit from one department to another be but the turning of a few pages in a book of accounts; in fact, the ideal coordination is perhaps attained when all functions are combined in the one person; but, because a business of any size must have its divisions and because functions must be separated in order that they may be studied, I speak of departments. I have also used the phrase "purchasing agent" rather than "buyer" or "merchandise man" (the terms of merchandising) because it is more accurate and comprehensive, although in practice it is not much employed outside of manufacturing.

It is not necessary, it is not desirable, that any concern should load itself with more employees than are absolutely required for the work in hand, but the concentration of functions should not lead to the confusion of functions. The principles of division, and not the arbitrary divisions, are to be applied.

Comparing Two Types of Buyers. A common—perhaps the most common—fault in buying is primarily to regard the price and secondarily the quality and then only if the articles prove to be strikingly bad.

Contrast the profit-making values of these two buyers. A year or two ago, the management of a factory in the Central West employed a new purchasing agent. The new man had been a salesman for 20 years and "knew the game from the ground up." Nobody could "put anything over" on him. He proposed to rely on his ability to outguess the other fellow.

He played one salesman against another to secure price concessions. His motto was "anything to get the price down." And he succeeded, for he can exhibit comparative figures of the prices at which commodities were bought before and after the beginning of his regime. With very few exceptions the comparison, based on price alone, shows in his favor.

When questioned as to the quality of the goods he purchases he blandly assures you that it is uniformly higher than before he began to do the buying. But go out into the factory and ask the same question and you get a different answer.

The foreman of the machine shop will show you castings that are so full of sand holes and other imperfections and of such irregular hardness, that many of them have to be discarded, while those that can be machined wear out the cutting tools and the workman's patience with extraordinary rapidity.

Drives are working badly because of inferior belting; everywhere one finds complaint—even the stenographers in the office protest at the quality of the carbon paper. Could the total effect of the labor waste, the waste in fabrication and the waste in returned goods be traced, it would be discovered that this "smart" agent is the most expensive individual on the roll.

Getting Down to Basic Buying Principles. Another factory took a young man, some five years ago, who did not imagine that he knew all about buying or selling. He started on the basis that most sellers want to do the square thing—and more especially when they know that acting otherwise will bar them from future orders. Further, he took the view that price was a question of quality and lengh of service as well as of first cost.

He ran into his first difficulty when he attempted to discover just what service the purchases were giving; he found that the foremen and workmen were more often guided by convictions than by reason and that their opinions were not safe guides. He determined to develop the facts.

He devised a system of reports and records covering all the major supplies, as well as the productive materials used, showing the service rendered by practically everything consumed in the plant. For example, every drive—of which there were several hundred—was numbered and given a card that held the location, the power transmitted, the operating conditions, and various other pertinent data.

For each belt used another card was prepared on which was a description of the belt, the price, the maker's name, the number of the drive on which it was used, the date put on, the date taken off, the production of the machinery to which it supplied power, the cost per unit of production, the condition of the belt upon removal—in short, every fact about that belt. The essential information was transferred from the belt reports to the drive cards and thus was had a complete record of the cost of every belt tried out in the plant.

As the quantity and range of the data increased, the buyer was able to make his purchases with an exact knowledge.

What Exact Buying Knowledge Accomplished. The economies have been astonishing. Five years ago the annual belting cost was about $17,000. Last year it was approximately $12,000. This saving of $5,000 was effected despite the fact that the average price paid for belting increased 50% and the production of the factory increased 33⅓%. Taking these two points into consideration, it means that the direct saving amounted to over 45%, while the average length of service was nearly trebled.

This increase in the life of the belts really has a greater significance than that represented by the direct economy, for it follows that the number of shutdowns for belt changes and repairs has been greatly reduced, with a large resultant decrease in the loss of production due to the stoppage of equipment.

During the same period, and by the same means, the annual cost of another supply used in large quantities has been reduced by some $25,000.

Two or three years ago a shortage existed in the supply of one of the major productive materials used in this plant, and it was necessary temporarily to substitute another material. The new article was considerably cheaper, and as far as general observation could determine, apparently caused no reduction in the quality of the product. When the supply of the material usually employed returned to the normal, and the purchasing department was ready to place an order for it, the management demanded to know why it was necessary to return to the higher-priced article, and insisted that they could save money on the new.

What Comparative Cost Figures Showed. This attitude had been anticipated by the purchasing agent, who had been quietly collecting data for a report on the relative merits of the two materials. Among other things, he showed that while the cheaper article was in use, the waste, the quantity of the product rejected by the inspection, and the number of complaints from customers materializing in returned goods, had all increased.

The most tangible result, however, had been the increase by nearly 100% of the maintenance cost of the machinery on which this article was prepared, due to the detrimental effect of the cheaper material on the equipment. This added expense alone amounted to more than double the saving in first cost.

This broad-minded policy of fair dealing, joined with an impartial and exact test of the relative merits of the various

commodities purchased, has developed a large number of advantages, the value of which it is difficult to measure in dollars and cents. While keenness of judgment of both materials and men still plays its important part, the old idea of bargaining and dickering for an advantage has now no place in the management of this purchasing department.

No salesman dares supply the plant with an inferior article, because he knows that it will be subject to a rigid test which will bring out its defects. On the other hand, manufacturers are so anxious to receive this purchasing agent's commendation that they usually take more than ordinary care in the preparation of the goods made for him.

Requisites of a Purchasing System. An efficient system of buying will have these three fundamentals:

1. The obtaining of that which is needed at the time it is needed, and the obtaining only of that which is needed. There should be neither a deficiency nor a surplus.

2. The obtaining of goods at proper prices and of proper quality.

3. The avoiding of clerical errors and fraud by a system of internal checks, which will quickly uncover them.

Getting what is wanted and only that which is wanted, and at the proper time, is one of the chief difficulties of business. The coordination between the stock room and purchasing department should be absolute. In the small house which does not have an actual division into departments, there is frequently little or no relation between the purchases and the needs, while in the larger concern, with both stock rooms and purchasing agents, an even greater confusion sometimes exists.

A well-known automobile maker found that the annual rate of turnover was not nearly as great as the nature of his business would lead him to expect and, tracing the trouble, it was discovered that the inventory of parts, and so forth, was very high. For instance, this company bought finished axle housings at an average price of $31.50. They used, according to the season, from 100 to 150 of them a month. Deliveries were usually made without delay, and they had no reason to maintain a stock beyond immediate needs. But the stock averaged about $3,000 more than was really needed, and the same condition ran through nearly all of the items.

The stock inventory was hundreds of thousands of dollars over and above any legitimate requirements. This money in stock was, for the time being, dead money, and materially retarded the speed of the turnover and the rate of profit.

Stock should be regulated by setting for each item a certain level of maximum and minimum. If, for instance, a business is active in April and dull in August, a maximum stock should be carried in April and a minimum in August. The maxima and minima should be determined by the record of previous years, in combination with the planning for the current year.

Setting Stock Maxima and Minima. The fixing of the maximum and the minimum stocks to be carried is based on the expectation of future events as related to the records of the past; naturally it cannot be more than an estimate, and all possible conditions cannot be foreseen, but reasonable foresight will give a very high insurance against error.

The fundamental for any estimate of demand is a careful analysis of past periods. Every item should be enumerated under its classification in totals brought down at least to quarters.

The tabulations must be closely studied so that the nature of the demand may be known. When the sales are uniform it is not at all difficult to definitely determine on a program of manufacture, for then the minimum reserve can be set as a definite proportion to the sales.

This minimum, expressed usually in terms of so many days' supply, as 30, 45, or 60, serves as point for replacement orders as shipments are made, and sets the limits which govern the frequency of turnover. And usually production can be thus reduced to a smoothly running and constant process.

But, if the business has a seasonal color, it becomes difficult to operate on a minimum basis in almost directly increasing proportion to the extent of the seasonal range or fluctuation.

A particularly difficult situation was presented by the manufacturer of a staple article which had some 1,500 items; the main items were seasonal, but others were not only seasonal, but apparently also of shifting seasons. The entire demand for the year, taking all divisions, moved thus:

First quarter	20,000 pounds
Second quarter	8,000 pounds
Third quarter	10,000 pounds
Fourth quarter	30,000 pounds

Had the production followed the trail of this demand, the plant would have run in cycles of hectic rush and despairing idleness. The following course of action was followed:

Shipments were tabulated for five years, by item and by months. Every article was studied individually as a manufacture of its own and, wherever the demand for an article was sufficiently uniform, a minimum reserve was used. But in the cases where the article was distinctly seasonal, a deliberate program or predetermined schedule of manufacture was established, with the point of equalizing production and at the same time assuring an adequate stock to meet shipping requirements.

Here is the treatment of a single item:

	Quarters			
Article	First (lbs.)	Second (lbs.)	Third (lbs.)	Fourth (lbs.)
Past sales	250	300	175	675
Monthly schedule of manufacture	375	375	375	300
Balance after expected shipments	125	75	200	25
Accumulated reserve	125	200	400	25

Every item was analyzed in this manner and a program outlined, with the results shown as follows:

	Quarters				
	First (lbs.)	Second (lbs.)	Third (lbs.)	Fourth (lbs.)	Total
Sales	20,000	8,000	10,000	30,000	68,000
Production	18,000	15,000	15,000	20,000	68,000

Described in detail this meant a reduction from a sales range of 8,000 to 30,000 pounds to a production range of 15,000 to 20,000 pounds.

Naturally certain articles were under- or overestimated and caused little embarrassments and minor upsets, but the resulting good as a whole was beyond measure. To forestall the only possible objection, it must be admitted that the average amount of stock was increased and hence the average rate of turnover decreased, but the interest in this increased investment was offset overwhelmingly by the increased operating economy of more uniform production.

Controlling the Stock Room. It can be assumed that the business man has at least an approximate knowledge of his requirements at the various seasons, and that there is no outside factor to justify buying except for actual needs.

Before it is possible to ascertain the amount of stock in hand at any time, it is essential that accurate information be had as to the location of each item, and that the directory of the stock room be not a matter which is carried in the memory.

In one very large concern the number of parts carried was exceedingly high. The stock was scattered and the only man who pretended to know where everything was located was the storekeeper, and even he did not know the entire stock. When a careful inventory was made, it appeared that the company had frequently bought additional supplies of items that were acually on hand but could not be located; that they had bought out of all proportion to their needs, and that many thousands of dollars were tied up in parts which had been extravagantly bought in the past for models which were, at the time of the taking of the inventory, no longer made. Think of the profit they had deliberately abandoned!

The majority of the stock rooms into which one goes are suffering from indigestion. They are overloaded, and not only do they carry too large a stock of many items, but despite perpetual inventory records, and so forth, the disposition of the items is often carried in the head of some stock man or other individual, known the plant over as "Pat" or "Gus."

Stock records, if not properly maintained, are a waste of time and, therefore, money. Time and again I have seen finished parts come into a finished parts storage room already overflowing with similar parts.

Another Case of Expensive Stockkeeping. Another flagrant case of carelessness in stocking was that of a company making transformer boxes. The castings were all bought outside and merely assembled in the plant. The store room was full of castings, and apparently some of them had not been disturbed in a long time. An actual count was taken, and of one style of box some 500 were found to be on hand. A stock record had been kept—although not used as a check—and this very record showed that the maximum in the line was 300. The fault was traced back to the drafting room.

When the drafting room made an improvement in the design of the part, an order for a pattern was immediately sent to the pattern shop—so far, so good. But when the pattern was completed, new castings were immediately ordered, and no attempt was made to use up the old frames, although a use might have

been found for them on work still in process. To make matters worse by adding to the general confusion, the same part number was given to the new design.

The result was inevitable. If an order came in requiring 50 frames, "Pat" or "Gus" had to go through the stock on hand to see if he could find 50 of the new design. The value of the 500 balance shown on the stock card can be questioned.

Of course a new part number should have been given when the design was changed and another record started; then the parts on hand would have been tagged as obsolete and executive attention attracted. That factory had a small fortune tied up in obsolete parts—many of them five or more years old. Here is but a short list (made in 1915) of one section of the stock room with the date when the parts were last used and their cost:

Number of pieces	Last year used	Total cost
152	1908	$266.20
461	1908	675.00
61	1908	25.80
50	1911	63.50
60	1912	107.20
51	1909	64.60
146	1907	204.00
58	1907	122.50

Quite often no stock record whatsoever is kept; the purchases are stored away as they come in—and forgotten. In one shop I found a recent purchase of brass trimmings that the shop superintendent had ordered when he could not find the trim that he sought. They had been bought at high prices and constituted nearly a year's supply, yet two barrels of the same trimmings, bought at low prices, were lurking in an obscure corner.

In the same factory, chaos also reigned in the die and small tool storage; obsolete dies crowded out current dies, and when the current ones could not be found, others were bought—and the presses waited until they were delivered. And all because the stock rooms were not charted and their contents kept in ready order. Every stock room should have its stock cards.

Serviceable Stock Records. A model stock card is shown in Form 12. The size of this card may be 4 by 7 or 5½ by 3½, or any other size sufficiently large to hold all of the information, and yet not so large as to be bulky. The determining factor in the size of the card is personal preference, or sometimes the possession of filing cabinets of the size. This card is kept by the

Article BLADES

Description _____ Mark or Size 3 1/4 X 5/16

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Max.	450	450	100										Max.
Min.	150	100	50										Min.

Section _____ Bin or Shelf _____

Ordered		Received		Delivered			
Date	Quantity	Date	Quantity	Date	Quantity	Date	

Article _____

Description _____ Size _____

_____ Maximum _____

_____ Minimum _____

Section _____ Bin or Shelf _____

Ordered		Delivered						Balance	
Date	Quantity	Date	Quantity	Date	Quantity	Date	Quantity	Date	Quantity

Received	
Date	Quantity

FORMS 12 and 13: These two forms show model stock cards. They may be most any size that your needs require, the determining factor in size being largely personal preference or the possession of filing cabinets of a certain size. The cards are usually kept by the storeskeeper. It will be noted in these forms that there is no mention of values, which may well be considered beyond the limits of the storeskeepers' duties. Form 13 is designed especially for a business where the stock is presumed to remain at a fixed level. More space is given to deliveries than to receipts on the supposition that they will be more numerous in such a concern.

storeskeeper, and it has the advantage not only of exactly recording the location of the stock, the receipt and delivery out, and also the balance, but at the top it contains the maximum and minimum amounts which should be on hand during each month of the year.

It will be noticed that on this record there is no mention of value. It is not the business of the storeskeeper to know or to approximate values. His sole duty is to keep track of quantity. On the reverse side of the card tab is printed the "out." The cards should be reviewed weekly or monthly, according to the size of the business, and it can be instantly determined whether or not there is a shortage in any article. In the case of a shortage, the card is merely reversed; then the word "out" appears in unescapable fashion. This form of stock card can be adapted to any business, will save hunting for an article, and prevents production hold-ups by giving warning of impending famine.

Checking Up on the Storeskeeper. In order to check up the accuracy of the storeskeeper, counts can be made from time to time. The most frequent and the most convenient method of checking up, and one that is used by many concerns, is, when a shortage is reported, to compare at once the actual stock on hand with the amount recorded on the card.

This gives a continuous check on errors without disrupting the whole business of the company to take inventory.

Moreover, it provides the management with an actual count of stock when that count is the easiest to obtain—that is, when at the lowest ebb. The checking can be done with precision, and the needless purchasing, that might come about through clerical error, avoided. The inventory is constant and perpetual.

If the business has no seasonal phases and the stock is presumed to remain at a fixed level, Form 13, may be used to advantage. This card is larger than that shown in Form 12, and does not have the maximum and minimum rulings. More space is given to deliveries than to receipts on the supposition that the deliveries from a stock of this nature will be more numerous than the receipts.

Form 14 is for the house which has a unit of measurement such as a roll or a bale—or any unit which is other than feet or pounds. It is popular among carpet, rug, and linoleum concerns.

Form 15 is planned as a check on shipments that leave the premises. It traces the fulfilment of orders as distinguished

Article _____ Maximum _____
_____ Minimum _____
Location _____ Unit of Measurement _____

On Order		Received					Issued				Balance on Hand		
Date	Quantity	Date	From	No. Pkgs.	Total Quantity	Quantity Per Pkgs.	Date	No. Pkgs.	Quantity Per Pkg.	Total Quantity	Date	No. Pkgs.	Quantity

Description _____ Unit _____ Maximum _____ Minimum _____

On Order		Received		Delivered			Delivered			Balance	
Date	Quantity	Date	Quantity	Date	Quantity	Order No.	Date	Quantity	Order No.	Date	Quantity

Article _____ Location _____ Maximum _____
_____ Unit _____ Minimum _____

Ordered		Received			Issued						Balance	
Date	Quantity	Date	Quantity	Price	Date	Quantity	Price	Date	Quantity	Price	Date	Quantity

FORMS 14-15-16: These three forms are used effectively in keeping a running inventory of raw materials and supplies. The upper one (Form 14) is for the concern that has a unit of measurement such as a roll or a bale, or any unit other than feet or pounds. The center card (Form 15) is planned as a check on shipments that leave the premises. It traces the completion of orders as distinguished from the upper card which is designed for interdepartmental use, although it need not be so limited It is particularly adapted for concerns where requisitions mean shipping out goods. The lower card (Form 16) is generally used for keeping an accurate and continuous check on raw material and supplies.

from the preceding cards which are designed for interdepartmental affairs—although they need not be so limited. This card has the special heading "order number" under the general caption of delivery; the number of the requisition is entered in the space whenever goods are ordered out. The form is particularly adapted for the trading organization in which requisitions mean shipping out goods.

Form 16 is generally used for the keeping of raw materials and supplies. The comments on the previous forms will cover everything expressed on this card.

What Shortage Report Should Show. In the first form of stock card, showing the maximum and minimum stocks the storeskeeper has no discretion in the reporting of a shortage. The higher executives, through their planning, have determined just how much of any one article should be on hand in each season of the year, and, therefore, the stock is closely coordinated with the needs of the business.

Too short a stock in one single item may tie up the entire establishment, while too great a stock, as has been pointed out, may materially cut into the profits. Therefore, the withdrawal of discretion in the matter of quantities from the storeskeeper is part of the best-managed business.

In many cases, it may almost be said in the usual case, the reporting of a shortage rests largely with the storeskeeper himself. He decides, by rule of thumb, when this or that article is low and he reports accordingly, the deficiencies being ascertained from the weekly or monthly inspection of the stock records. The storeskeeper makes out the report and forwards it to the purchasing department. In the case of the small business which does not maintain separate departments, the report acts as a memorandum of what the owner should immediately buy.

A model form of shortage report is Form 17, on which is recorded all the articles the stock of which is too low according to the stock cards. This form follows out the stock card, Form 12, on which was entered the maximum and minimum amounts.

Upon the receipt of a shortage report by the purchasing department, or if such a department does not exist, by the owner, the figures of the balance on hand as shown by the card should at once be checked by a physical count.

The shortage report, properly used, advises the purchasing department in ample time of the need for supplies or materials,

WEEKLY SHORTAGE REPORT

MAKE PHYSICAL COUNT OF ITEMS BEFORE ENTERING ON THIS REPORT

DATE March 15/18

DESCRIPTION	MAXIMUM TO BE CARRIED	MINIMUM TO BE CARRIED	LAST ORDER NUMBER	NOW ON HAND
SAFETY POSTS	1500	500	1472	496
BLADES	2500	1000	1340	1120

QUOTATIONS

ARTICLE

MAXIMUM_____
MINIMUM_____
DESIRABLE ORDER_____

DATE	FIRM NO.	FIRM QUOTING	ON QUANTITY	PRICE	DISCOUNT	FREIGHT	NET COST PER UNIT	REMARKS

PURCHASES

DATE	FIRM NO.	QUANTITY	PRICE	REMARKS	DATE	FIRM NO.	QUANTITY	PRICE	REMARKS

RECORD OF STOCK REQUIREMENTS

Item _____

Size _____

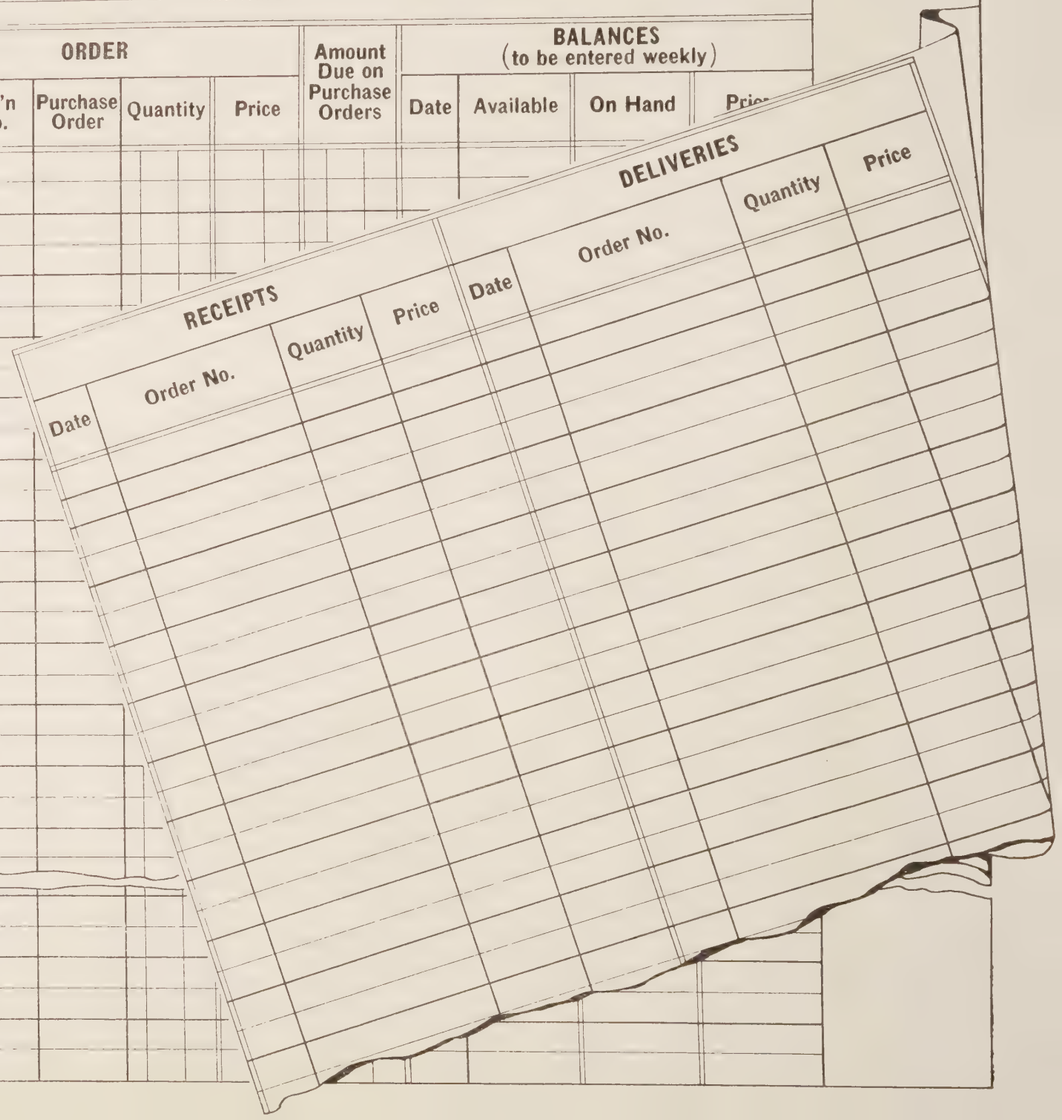
Kind of Material _____

Symbol or Unit _____

WT. PER (_____) _____ LBS. LIMITS: MAXIMUM _____ MINIMUM _____

REQUIREMENTS							CUSTOMER'S DELIVERY EXPECTATIONS												ORDER					Amount Due on Purchase Orders	BALANCES (to be entered weekly)			
Date	Order and Spec.	Customer	Req'n No.	Quantity	Est'd. Wt. per Unit	Total Required	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Date	Req'n No.	Purchase Order	Quantity	Price		Date	Available	On Hand	Price

FORM 20: It is often advantageous for a buyer to contract for supplies a whole year in advance to be delivered in monthly shipments. This situation is provided for by this form, which utilizes 12 columns, each representing a month. When the bid is accepted, the buyer notes in the proper column the amounts and the promised delivery dates. A slip sheet is inserted to record the receipts on the order. This serves as a check and, if the contract has been only for delivery at the market, also as a record of the prices charged. A concern buying products on which immediate delivery cannot be had will find this form useful.



and it avoids the "rush" orders, the possible stopping of manufacture and the certain disadvantage of being forced to buy at top prices in order to secure immediate delivery, and it also absolutely prevents the answer of "all out" being given when any particular article is requisitioned.

Purchasing Department Quotation Lists. The shortage report having reached the purchasing agent, he decides, after market inquiries have been made, from whom and at what price the articles needed shall be bought. The quantity which he will purchase is to be determined primarily by the minimum and maximum record, but it also may be influenced by market conditions, in that he will buy more in a rising market than in a falling market.

The properly organized purchasing office is equipped with all possible data on past purchases, the performance of material purchased, prices, and the firms with whom experience has found it advisable to deal. The essential records of the purchasing department are the quotation and purchase cards, which in the best form are combined in one card, the front and back of which are reproduced in Forms 18 and 19.

On the face of the card is listed the article, the maximum and minimum amount, and the desirable order. The desirable order is determined by past experience and is the size of order which can be most economically filled by the source of supply. Each firm from which the company buys has a number and for convenience the number instead of the name is used in subsequent records. On the quotation card are the complete details of all quotations and a column is left for remarks, should an extra quantity or price claim be made, or for the time of delivery.

On the reverse are noted the purchases with the quantity and price. Thus, the purchasing agent, on any article that may be desired, has immediately at hand a record of the past purchases and what firms have given the best satisfaction.

Form 20 shown on Insert I keeps track of purchases for future delivery. It may be advantageous for the buyer to contract for the whole year with, say, monthly shipments. This is often advisable in bulky commodities which take up too much storage space or again it may be, as in the steel trade, that the seller cannot promise more than a certain amount in any one month.

This situation is provided for in the twelve columns each representing a month. When the bid is accepted, the buyer

notes in the appropriate columns the amounts stipulated and their promised delivery. A small slip sheet is inserted in the larger form to record the receipts of the portions of the order. This serves as a check and, if the contract has been only for delivery at the market, also as a record of the prices charged. A concern buying much steel or kindred products on which immediate delivery cannot be had, will find the form useful.

Performance Records. Supplementing the quotation record, and equally controlling the purchasing agent, is the performance record. In the purchase of ordinary supplies many concerns do not deem it worth while to keep performance records, while others keep a tally of the exact performance of every article that comes within their purchasing activities. In practically all purchases of equipment, such as belts, machines, conveyors, and the like, or in fact anything other than current staple supplies, a performance record should be maintained. A form that has given satisfaction is Form 21. The performance record acts as a check upon the quotation card.

PERFORMANCE RECORD
DETAILS INSIDE

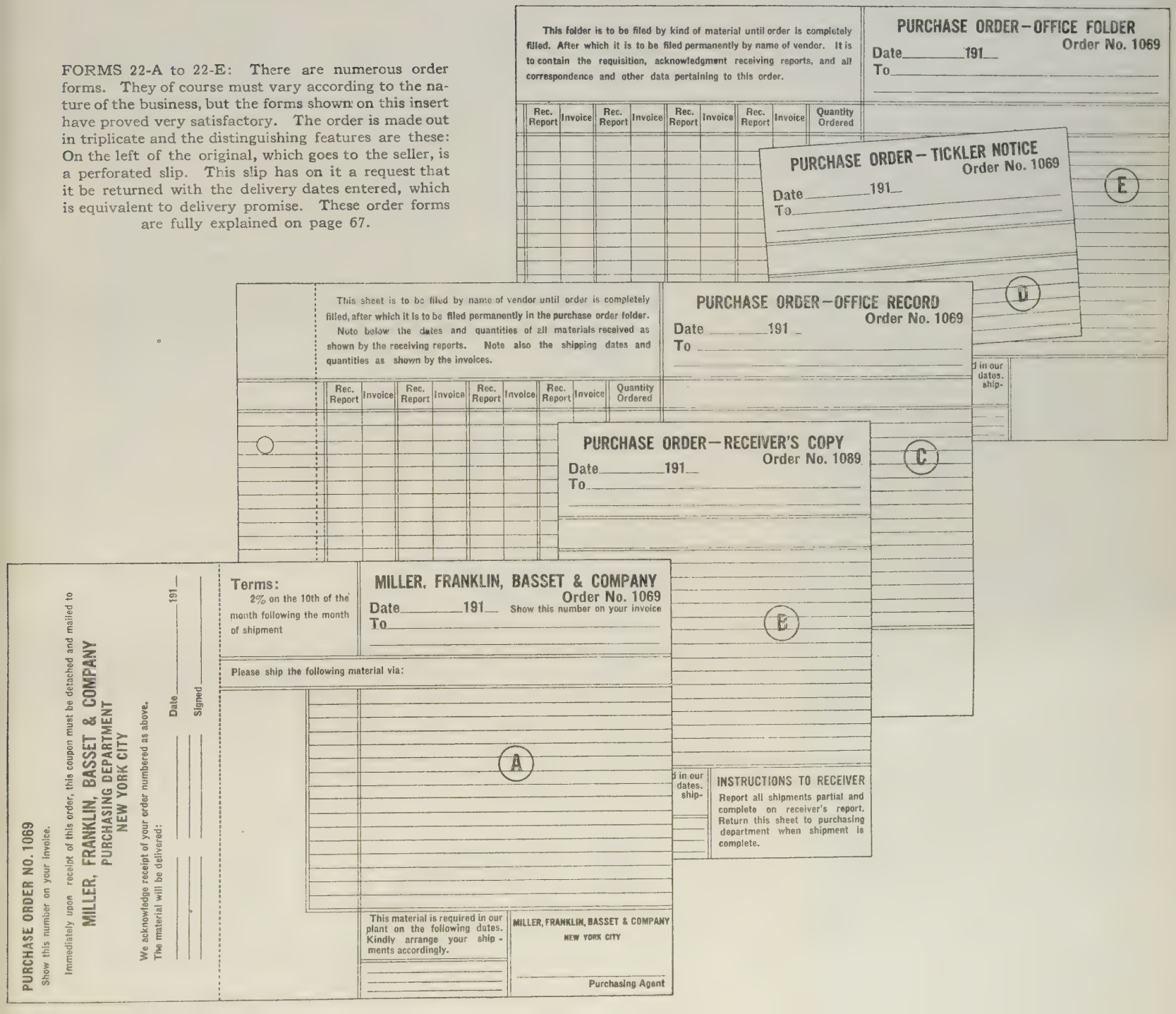
Article_____ Article No._____

Date	Item	Maker	Price	Remarks

Form 21

The purchasing agent will commonly ask for quotations when he has determined the amount of the order and the possible firms from which to buy. When he receives his bids, the past performance of similar articles sold to him by that bidder may

FORMS 22-A to 22-E: There are numerous order forms. They of course must vary according to the nature of the business, but the forms shown on this insert have proved very satisfactory. The order is made out in triplicate and the distinguishing features are these: On the left of the original, which goes to the seller, is a perforated slip. This slip has on it a request that it be returned with the delivery dates entered, which is equivalent to delivery promise. These order forms are fully explained on page 67.


This folder is to be filed by kind of material until order is completely filled. After which it is to be filed permanently by name of vendor. It is to contain the requisition, acknowledgment receiving reports, and all correspondence and other data pertaining to this order.
PURCHASE ORDER—OFFICE FOLDER
Order No. 1069
Date 191
To
Rec. Report
Invoice
Quantity Ordered
PURCHASE ORDER—TICKLER NOTICE
Order No. 1069
Date 191
To
E
D
This sheet is to be filed by name of vendor until order is completely filled, after which it is to be filed permanently in the purchase order folder.
Note below the dates and quantities of all materials received as shown by the receiving reports. Note also the shipping dates and quantities as shown by the invoices.
PURCHASE ORDER—OFFICE RECORD
Order No. 1069
Date 191
To
PURCHASE ORDER—RECEIVER'S COPY
Order No. 1089
Date 191
To
C
B
A
Terms:
2% on the 10th of the month following the month of shipment
MILLER, FRANKLIN, BASSET & COMPANY
Order No. 1069
Date 191
Show this number on your invoice
To
Please ship the following material via:
INSTRUCTIONS TO RECEIVER
Report all shipments partial and complete on receiver's report. Return this sheet to purchasing department when shipment is complete.
This material is required in our plant on the following dates. Kindly arrange your shipments accordingly.
MILLER, FRANKLIN, BASSET & COMPANY
NEW YORK CITY
Purchasing Agent
PURCHASE ORDER NO. 1069
Show this number on your invoice.
Immediately upon receipt of this order, this coupon must be detached and mailed to
MILLER, FRANKLIN, BASSET & COMPANY
PURCHASING DEPARTMENT
NEW YORK CITY
We acknowledge receipt of your order numbered as above.
The material will be delivered:
Date
Signed

INSERT II

FORMS 22-A to 22-E, described on page 67

be as important to him as the price, and sometimes of greater importance. The time of delivery is, of course, also a factor, but one of varying importance. The performance record will determine which article is really the cheapest.

One concern in Pennsylvania—a heavy user of leather belting—kept records of all belts purchased for a period of years. It found that the highest-priced belt which was sold to it was actually, from the point of performance, the best investment, because the most economical. It standardized on this belting and as a result has saved about $6,000 a year.

Ordering the Material. The order and the source of supply having been decided upon, the purchasing agent gives the order. It is desirable in small, and essential in large, business that a regular form of order be used. There are numerous order forms but the set of forms which have been found to be most satisfactory in every way are reproduced in Forms 22-A to 22-E and shown on Insert II. The order is made in triplicate and the distinguishing features are these: On the left of the original copy, which goes to the man from whom you buy, is a perforated slip. This slip has on it a request that it be returned with the dates of delivery entered. Thus a specific promise of delivery is exacted from the seller.

When this slip comes back it is pasted on the triplicate order which remains on file in the purchasing department. The last copy should be made upon strong manila paper or cardboard that will stand on edge. Numbers representing days of the month and letters representing the months may be provided as the top. The return slip from the seller gives the dates of delivery and these dates may be noted by fastening a tab to the corresponding month and day on the top of the triplicate card.

The Purchasing Agent's Follow-Up. The datings have also another function—to follow up the receipt of the order. For instance, if the order is mailed on the third, and an acknowledgment should come back not later than the seventh, then the little tab or rider is attached to the top of the card on the seventh. Each morning the purchasing agent should glance through the cards and take out those bearing riders for that day or the previous day and follow them up.

The duplicate copy of the order goes to the receiving clerk. It is identical with the original, except that the column in the original for "quantity ordered" is cut out. The quantity does not

appear on the receiving clerk's form, and he must check the receipts by an independent count.

The importance of this independent count is great. The receiving clerk, being human, is certain some time to guess at the amount actually received—if he has before him the amount that should be received. But not knowing that amount, he is forced in every instance to count. Numerous errors, and not a few cases of fraud, have arisen in the department of the receiving clerk.

For instance, it was the custom of a beef-packing house to allow from four to six pounds for shrinkage per carcass on steers shipped to subsidiary houses. The actual shrinkage of beef can only be approximated, for variable elements, such as the physical condition of the animal before killing, the icing in transit, the distance from the stock yards, and numerous other factors, all enter into the loss of weight.

Corn-fed cattle lose very little weight—possibly four pounds —while grass-fed steers will lose five or even six pounds. The receiving clerk, in cahoots with another worker, found that by taking the maximum allowance in every case, the actual shrinkage was so much less that an entire steer could be counted out in the contents of each seven cars. Receipts averaged about nine cars a week, so that the conspirators added to their incomes, at the expense of the company, about $100 a week. Had, however, this concern been equipped with a purchasing order of the type illustrated, the receiving clerk would not have been able to determine how much weight might be subtracted. He would have been compelled to return true weights and numbers, and the fraud would not have been possible.

A Simplified Purchase Order. Another form of purchase order is Form 23, which is also executed in triplicate, the original going to the seller, the duplicate, with the quantities removed, to the receiving clerk, and the third copy, again on heavy paper or cardboard, being retained in the purchasing department. This order is somewhat simpler than the one previously given, but does not contain quite as many desirable features, especially those on delivery.

The style of purchasing order and record shown on Insert II, is entirely complete and has been used with great success by a number of large establishments. Form 23 follows the same lines as the preceding forms, except that it is in quadruplicate; the uses of copies are noted on the illustration.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 J F M A M J J A S O N D

No. (serial) _____

_____ 19_

_____

_____

Please ship the following to _____

_____

_____

and charge to our account

Quantity	Description	Price	Shipping Date

FORM 23: This form provides for a triplicate copy of all purchasing orders. The original copy goes to the vender, the first copy to the receiving clerk, and the third is filed. In order to secure accurate and independent count of receipts by the receiving clerk, the quantity column is cut off from the receiving clerk's sheet.

Please observe the following instructions in packing, shipping and billing

Route Via	Terms

Very Truly Yours

Confirming { Verbal / Telegram / Telephone } Order of _____

By _____

Every purchase should have its formal order, and in the case of a verbal, telephone, or telegraph order, the written authorization should follow immediately.

An order once given should be closely followed; the automatic follow-up is a feature of the above forms. The purchaser who keeps incessantly after the seller is apt to be the man who gets his goods first, and although crowding the seller may at times be purely an academic exercise, yet no order given should be neglected until the goods are actually received or until some good reason for their non-delivery is at hand. Otherwise the progress of important work will be held up through negligence in the purchasing department and an operation, which otherwise would show a profit, turned into a loss.

Take the case of a vault builder. He had erected several sections of deposit boxes, covering some hundreds of square feet of his factory and cluttering up badly needed floor space with massive drawers, framework, and so forth. When all was in place, it was suddenly discovered that the locks and the keys had not been received from the lock makers. Through several weeks the imposing structure of the deposit boxes took up most of the available floor space of that manufacturer and cut deeply into his expected profits, for little or no other work could go forward while that incubus remained.

Purchasing Supplies. The purchasing of supplies has been touched on in the earlier portions of this chapter, particularly in the matter of performance records, but additional checks upon their use can well be investigated by the purchasing department—although at times the subject concerns costs rather than accounting proper. Whenever the cost of supplies runs into several thousand or more dollars a year, a close study of their use will reveal possible economies.

The term "supplies" includes all items of an "expense" nature often referred to as "indirect materials." They consist of those articles which neither enter directly into the product, nor which can be classed, because of their short life, as a part of the permanent investment. Every plant has innumerable articles of this nature, such as drills, taps, reamers, files, belts, lubricating oil, buffing wheels, tripoli, brooms, and so forth.

A plan for the reduction of such costs must be based on detailed knowledge, both as to the quantities consumed and the results produced by their use. To secure such data, there are

four avenues requiring development before maximum results can be obtained; although each step in itself should yield return.

First, the installation of a complete requisition system.

Second, the tabulation of supplies used, by items and departments, and summarized monthly in comparative form.

Third, constant quality tests of the more important articles.

Fourth, the establishment of an incentive to hold the supply consumption to a minimum.

A written order, signed by a responsible department head, should be tendered to the stores department before anything can be withdrawn. These requisitions should be priced, then separated by departments and finally classified, summarizing the cost of each of the important articles within each department. By tabulating these results in comparative form monthly, or "plotting a curve," an accurate index of the fluctuating cost of the "expense" items can be obtained, which should serve as the basis of inquiry.

Any item, the monthly cost of which exceeds a predetermined normal amount, should be investigated and tests made to ascertain the efficiency of the article used. I recently made some tests of reamers and found that only 40% of them were adapted to the work. When the proper grades of steel were procured, there occurred an immediate monthly saving of $200.

In my experience, it has been very rare indeed where, after a thorough study, reductions of at least 10% of the former cost of supplies have not been made. In many instances considerably higher percentages of saving have been secured.

Receiving the Goods. When the goods come in, the receiving clerk records on his duplicate order blank the actual amounts which reach his hands. He forwards his tally to the purchasing department, where the amounts received are compared with the amounts ordered and any differences noted. The purchasing agent then attaches the duplicate to the invoice and turns it in to the accounting department.

We have now reached the point where the purchasing records, with their associated reports, join with the accounting.

The Charge Register. The entry of the invoice will be made, in any even moderately up-to-date business, in a charge register. The charge register (formerly, in less improved form,

termed a "voucher register") is the result of a careful study to eliminate unnecessary work in bookkeeping. It is the modern innovation and is now the largest of the fundamental books.

Some form of charge register can be used to advantage by any business. It has nearly driven out the old purchase journal and has vastly changed the manner of use of the ledger. The present-day thought is to achieve as many results as possible with the one act; that is the thought back of the charge register.

The exact form of the register will depend upon the nature and the extent of the business which is to use it, but all charge registers are formed on the same principle. A representative type is Form 24.

To the left is entered the name of the seller, the date and the total amount of his invoice, then comes a space for the date when the invoice is paid and finally the columns for the divisions of the business to which the invoices may properly be chargeable.

In the older accounting practice every purchase brought about a ledger entry to the debit of the thing bought and a credit to that person from whom the thing was bought; the original entry being made in the journal, every item required one entry and two postings. Suppose a concern had 300 purchases a month; each purchase would have its initial entry in the journal and two postings, or 900 bookkeeping operations.

How the Charge Register Simplifies Accounting. The opportunity for error was enormous and, though the errors would be discovered, the vast time already consumed in the entering and posting would be enlarged by the hours spent in running down clerical errors. The whole proceeding was wasteful of human effort, and has no place in modern business. The safeguards which it undoubtedly gave can be obtained more economically. The charge register gives both the safeguards and the economy of effort.

Again, in the older accounting practice, new accounts were posted to the individual accounts contained in the general subsidiary "accounts payable ledger" and, as the bills were paid, the corresponding credits were posted to the detailed accounts. In the charge register, the "date paid" column takes the place of the ledger account.

As the bills are entered and posted in the "accounts payable" column they show the liability of the company in detail. At the end of the month the total of these items is posted to a controlling

account in the general ledger. In the succeeding months, as bills are paid, instead of posting to the individual accounts as was formerly done, the date is merely stamped in the "date paid" column alongside the invoices noted on the charge register. Thus a double posting waste is avoided.

Form 25 varies from the preceding form by the addition of another column headed "debit accounts payable." Should a payment be made in part, instead of in full, for an invoice, it is entered in this column, as are also contra-adjustments, such as returns. By deducting the debits from the credits the net balance is had.

Form 26 differs in having a "general ledger" column. In the course of business arise many transactions which would commonly have to go through the journal. Suppose materials be bought from someone to whom you already sell: Accounts receivable instead of accounts payable should be credited so that your purchase can be offset against the amount due you.

If a concern has more than one plant, the insertion of additional sheets will cover all of the information contained on Form 27. Where two or more plants are being operated, and it is important to know the operating costs of each plant, the "insert" sheet is provided to handle the individual items as expressed on the former forms.

The Divisions of the Charge Register. The elements of business are:

(1) Materials and supplies; (2) labor, productive and non-productive; (3) overhead, or expense; (4) selling overhead or expense.

The ordinary charge register is ruled to take these divisions of business activity with or without subdivision and according to the nature of the work in hand. The subdivisions and the resulting columns are limited only by the size of the page. I do not recommend the inclusion of columns to a number which will make a page more than 24 inches wide; this width, with a depth of 50 quarter-inch lines, makes a workable book. The Interstate Commerce Commission in its first essay with the accounts of railroads prescribed a distribution requiring about 130 columns; this was so wide that the clerks could nicely have used jitneys to make the excursions from one end to the other. Some of them even asserted that the register was health stealing

CHARGE REGISTER

Entry No.	Month MAR. 191_	Creditor	Credit Accounts Payable	Date Paid	Debit Materials		Debit Supplies
					POSTS	METAL	
00	3	Henry Jonas	212 50		212 50		
01	5	Elmer Franz	1 050 00			1050 00	
02	7	Clyde Hawley	100 25				100 25
03	10	Earl Riggs	15 50				
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							

FORM 24: This form, of which the portion directly opposite is a part, serves as a purchase ledger and also as a journal, thus eliminating extra clerical effort. It also provides a single medium for showing at a glance the exact amount and purpose of each disbursement.

CHARGE REGISTER

Entry No.	Month 191_	Creditor	Credit Accounts Payable	Debit Accounts Payable	Date Paid	Debit Materials	Debit Supplies
00							
01							
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							

CHARGE REGISTER

Productive Labor	Non-Productive Labor	Factory Expense Amount	Factory Expense Description	Selling Expense Amount	Selling Expense Description	Sundries Account	Folio	Debit	Credit	Entry No.
										00
										01
										02
		15 50	H.L+P.							03
										04
										05
										06
										07
										08
										09
										10
										11
										12
										13
										14
										15
										40
										41
										42
										43
										44
										45
										46
										47
										48
										49

CHARGE REGISTER

Productive Labor	Non-Productive Labor	Factory Expense Amount	Factory Expense Description	Selling Expense Amount	Selling Expense Description	Sundries Account	Folio	Debit	Credit	Entry No.
										00
										01
										02
										03
										04
										05
										06
										07
										08
										09
										10
										11
										12
										13
										14
										15
										40
										41
										42
										43
										44
										45
										46
										47
										48
										49

FORM 25: This form, of which the portion directly opposite is a part, differs from Form 24 in that a special "debit accounts payable" column has been added. Should a payment be made in part instead of in full, as is very often the case, the amount is entered in this column.

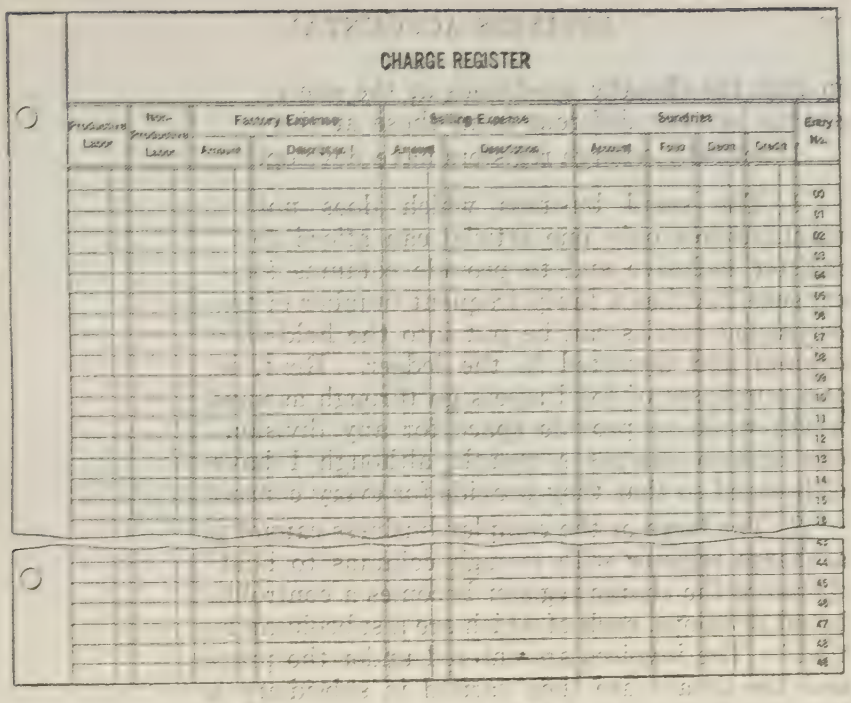
CHARGE REGISTER

Entry No.	Month ____ 191__	Creditor	Credit Accounts Payable	Credit General Ledger	Date Paid	Debit Materials				Debit Supplies
						Merchandise				
		Brought Forward								
00										
01										
02										
03										
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
43										
44										
45										
46										
47										
48										
49										

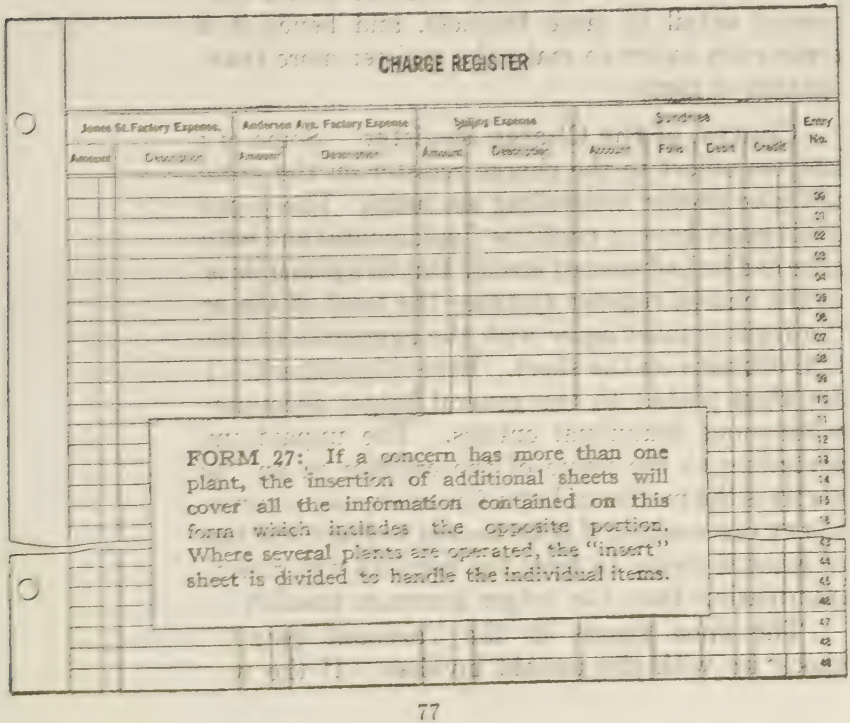
FORM 26: This form, which includes the portion directly opposite, contains a "general ledger" column. Transactions which would commonly have to go through the journal, as when materials are bought from a concern you are selling, are provided for by this column.

CHARGE REGISTER

Entry No.	Month ____ 191__	Creditor	Credit Accounts Payable	Date Paid	Debit Materials						Debit Supplies	Pro-ductive Labor	Non-Productive Labor	Administrative Expense	
														Amount	Description
		Brought Forward													
00															
01															
02															
03															
04															
05															
06															
07															
08															
09															
10															
11															
12															
13															
14															
15															
16															
43															
44															
45															
46															
47															
48															
49															


CHARGE REGISTER

Productive Labor	Non-Productive Labor	Factory Expense		Selling Expense		Sundries				Entry No.
		Amount	Description	Amount	Description	Account	Folio	Debit	Credit	
										00
										01
										02
										03
										04
										05
										06
										07
										08
										09
										10
										11
										12
										13
										14
										15
										16
										43
										44
										45
										46
										47
										48
										49


CHARGE REGISTER

James St. Factory Expense.		Anderson Ave. Factory Expense		Selling Expense		Sundries				Entry No.
Amount	Description	Amount	Description	Amount	Description	Account	Folio	Debit	Credit	
										00
										01
										02
										03
										04
										05
										06
										07
										08
										09
										10
										11
										12
										13
										14
										15
										16
										43
										44
										45
										46
										47
										48
										49

FORM 27: If a concern has more than one plant, the insertion of additional sheets will cover all the information contained on this form which includes the opposite portion. Where several plants are operated, the "insert" sheet is divided to handle the individual items.

in that the climatic conditions at the one end of the page were apt to be very different from those at the far end!

Practically, charge registers have developed into two classes:

1. The small business which does not manufacture, or manufactures only one article, can afford to make the charge register inclusive and to provide columns for each division of expense that has a fairly frequent number of transactions. The occasional entries can be put into the hold-all of a "sundries" column and dissected in the ledger. Rent, insurance, taxes, and purchases of fixed assets go through as sundries. It is not worth while to provide space for any division which has but one or two charges a month, although I have seen registers elaborated so that they provide for every conceivable item.

2. The large or the complex business cannot possibly provide a charge register with enough columns to hold all detail, and therefore the charge register becomes a controlling account with broad divisions, each of which are a subcolumn headed "description." The invoices are entered under the proper classification and the details are then carried in subsidiary accounts. Five hundred columns on a charge register would not contain all the needed detail of large business, and hence it is not common sense even to try to make the register more than a broad classification of items.

Control of the Charge Register. Some of the older bookkeepers object to the charge register on the ground that it does not give proper controlling accounts. The principle that every debit must have a credit is fundamental and without it no assurance can be had against errors. But this principle is fully preserved in the charge register system—the total of the credit column of the register must agree with the aggregate of the debit distribution columns on the sheet. Here is one check. The totals alone are then posted to the general ledger accounts instead of the voluminous individual entries. The unpaid invoices are filed according to the name of the creditor in an "unpaid invoice" file; it is the matter of but a few moments to run over the invoices to any one creditor if it be desired to know the total or the details of what is owing to him; the invoices will give more and better information than the ledger accounts possibly could.

The open spaces in the "account paid" column should check up with the unpaid invoices. If the wrong invoice has

been marked paid, a comparison between the unpaid invoices and the open spaces on the charge register will quickly locate the error. The invoices are afterward filed in a paid invoice index again under the creditor's name. The charge register gives every check and safeguard of the journal ledger plan, and in much more convenient form.

These matters of payment, however, more properly belong in the next chapter.

THE SPECIALTY COMPANY

It will be assumed that the company has now reached a development where it needs more efficient bookeeping methods and a charge register system has been installed.

All of the transactions of the company are not entered upon the forms, but only a sufficient number to illustrate the proper use of the forms. The complete transactions necessary to gain a comprehensible trial balance are as follows:

Raw materials purchased:			
From Henry Jones	$ 212.50		
From Elmer Frank	1,050.00		
From Allan Beers	125.00		
From Thomas Bost	51.75	Total,	$1,439.25
Supplies purchased:			
From Clyde Hawley	$ 100.25		
From Albert Low	47.50		
From George Andrews	95.00	Total,	$242.75
Expenses incurred:			
Through Daniel Riggs	$ 15.50		
Through Hawley Smith	32.00		
Through Samuel Adams	105.00	Total,	$152.50

The payroll for the month amounted to $1,639.75, which was paid in cash.

Interest accrued was $41.67.

The entries from the various books of original entry would be posted to the ledger accounts which in complete form would be as shown in Forms S34 to S45 inclusive.

The resultant trial balance as of March 31, reads as in Form S46.

(Ledger) **Cash**

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
Mar. 1	Balance		9 200 00	Mar. 31	Payroll		1 639 75
				" 31	Balance		7 560 25
			9 200 00				9 200 00
Apr. 1	Balance		7 560 25				

Form S-34

(Ledger) **Buildings and Equipment**

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
Mar. 1	Balance		18 500 00				

Form S-35

(Ledger) **Furniture and Fixtures**

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
Mar. 1	Balance		900 00				

Form S-36

(Ledger) **Materials and Supplies**

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
Mar. 1	Balance		8 450 00				
" 31	Charge Reg'r		1 439 25				
" 31	Charge Reg'r		242 75				

Form S-37

(Ledger) Capital Stock Unissued

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
Mar. 1	Balance		69 700 00				

Form S-38

(Ledger) Payroll

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
Mar. 31	Balance		2 167 50				
" 31	Cash		1 639 75				

Form S-39

(Ledger) Expense

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
Mar. 1	Balance		782 50				
" 31	Charge Reg'r.		152 50				

Form S-40

(Ledger) Interest

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
Mar. 1	Balance		341 67				
" 27	Mortgage Payable		41 67				

Form S-41

(Ledger) Bond and Mortgage

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
				Mar. 1	Balance		10 000 00

Form S-42

(Ledger) Interest Accrued

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
				Mar. 1	Balance		41 67
				" 27	Mortgage Payable		41 67

Form S-43

(Ledger) Capital Stock Authorized

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
				Mar. 1	1,000 shares $100 each		100 000 00

Form S-44

(Ledger) Accounts Payable

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
				Mar. 31	Charge Reg'r.		1 834 50

Form S-45

Trial Balance

Date: March 31, 1918

	Debit				Credit		
Cash on Hand	7	560	25	Bond and Mortgage	10	000	00
Buildings and Equipment	18	500	00	Interest Accrued		83	34
Furniture and Fixtures		900	00	Capital Stock Authorized	100	000	00
Materials and Supplies	10	132	00	Accounts Payable	1	834	50
Capital Stock Unissued	69	700	00				
Payroll	3	807	25				
Expense		935	00				
Interest		383	34				
Total	111	917	84	Total	111	917	84

Form S-46

CHAPTER VI

HANDLING ACCOUNTS PAYABLE

IN the preceding chapter we took purchases through the order, receipt, entry, to the credit of the individual from whom purchased, and the distribution to the proper business account. Now comes payment.

The elaboration of the machinery of payment will depend upon the size and character of the transactions, but as in all such matters, the principles remain identical regardless of the nature of the business or whether the bills paid amount to $100 or $500,000 a month. In the smaller concern the payment will be by the check of the owner; in the larger, by the treasurer, and in the very large corporation the comptroller will supervise all payments for merchandise.

Cooperation Necessary. A main point is to coordinate buying and paying. Goods should not be bought without a prospect of paying for them and, therefore, the purchasing department and the treasurer's or comptroller's department should always be in touch with each other. As said before, these departments may be contained in one individual. In many large corporations, orders by the purchasing agent exceeding a fixed gross sum must have the vise by the comptroller, in order that commitments may not be entered into in excess of expected income, or in the case of a very large commitment, that the financing may forehandedly be arranged.

The invoice is up for payment. Attached to it is a duplicate of the purchase order, on which the receiving clerk has noted the quantities which actually have come to him. This constitutes an authorization.

Payments then divided themselves very naturally into two classes. The first classification comprises the bills or invoices which carry a cash discount if paid within a certain time, generally 10 days, and the other class includes the bills which do not permit of such a discount.

Cash Discounts. The cash discount should be taken; money can seldom perform a greater earning service. Look at the interest equivalents:

1% in 10 days in a 30-day bill means 18% per year. Take a $1,000 invoice: the seller pays $10 for the use of the money for 20 days—he offers that premium for paying the debt 20 days before it is due. This is 18% a year.

2% in 10 days on a 60-day bill equals 14.4% per year.

6% for cash in 30 days on a 6-month bill is 14.4% per year.

4% in 30 days on a 4-month credit is 16% per year.

6% in 60 days on a 6-month line is 18% per year.

The keen business man takes discounts; bankers presume that the money which they lend is for this purpose. The trader whose statement does not show a practice of discounting will have trouble in obtaining loans no matter how good his statement—he will be stamped as not alive to commercial advantages and therefore not a good moral risk.

The Maturity File. The invoices as received from the purchasing department are either filed alphabetically (as was described in the previous chapter) or placed in a maturity file. If filed by the name of the creditor, a card should be made out at the time of filing, containing the date when the payment of the invoice is due. If a card be provided for each day, there will be a constant reminder of what should currently be paid.

The maturity file is divided into two sections, one section for the invoices on which discount can be taken, and the other for the no-discount bills.

The payable invoices thus appear each day; after a check has been drawn, they are stamped "paid" and filed.

It is desirable to fix a semimonthly pay day for all accounts which do not carry a discount, and to use the full limit of credit permitted on each non-discountable invoice. For instance, if a bill is payable in 30 days, put it in the payment date nearest to 30 days. Sometimes this will be 5 or 6 days over the 30 days or again it may be a few days under, but the average payment will be 30 days. Stated pay days are of importance. They not only increase the interest on bank balances but also save the time of the executive who signs the checks.

The interest on bank balances is not a trivial matter. If you will calculate the amount of money that you disburse in the course of a year, you will discover that even though your business be comparatively small, the total disbursements will be astound-

ingly large. If you can retain a considerable average balance by reason of taking the full credit on your bills, the interest thereby gained is far from insignificant and it is absolutely clear profit.

One of the large manufacturers of linoleum, whose disbursements run from $300,000 to $400,000 per month, makes his deposits daily and pays once a month. He thus has an average balance through 15 days of about $200,000, which nets him more than $1,000 a year. The large department stores seldom pay more than once a month and since the bulk of their sales are cash transactions, the interest on bank deposits amounts to a very considerable profit item.

Delaying payment until the full term of credit has expired is an easy source of revenue. At the same time it should not, in fairness, be abused; it is neither fair nor good business, and will not in the end be profitable to exceed the terms of payment—to take 60 days on a 30-day bill and then endeavor to get the cash discount is "sharp" practice. The exact terms of invoices will give sufficient profit without venturing into the zone of dishonesty.

Methods of disbursement have changed greatly within the past 10 years, and today the ordinary form of bank check is used only by those who have not kept pace with the improvements in the way of labor saving and safety. New paying devices can be divided into two general classes—those for the payment of merchandise accounts and those for the payment of wages.

Payment Procedure. Not a few houses still cling to the ancient form of bank check. The reasons are often purely sentimental but now and again a more or less plausible argument is put forth. In one very large carpet establishment, the general manager insists that he likes to see the check stub as well as the check and to inform himself that both are carefully written—he distrusts the typewriter for all matters of accuracy just as many lawyers will not pass deeds unless they are made by a scrivener.

The hand method entails (1) writing the check, (2) writing the stub, (3) entering in the cash book. Here are three operations and all slow because they are performed purely by hand. It is as important to save labor in the counting office as in the shop; the modern method uses the typewriter and consolidates the whole performance into one operation through the voucher check.

Voucher Checks. There are many forms of voucher checks and there is no considerable choice between them—it is largely a matter of taste and particular exigency. Forms

Register No.	Accounts Payable	Allowances	Discount	Amount Paid

No. 43691 Brought Forward

No. 43692 Brought Forward

Statement

Attached check is in payment of the following items. Receipt is not required.

Your Bill	Amount	Allowances	Discount	Amount Paid

No. 43691

_____ 191

_____ Bank

Pay _____ Dollars

$ _____

To the Order of

_____

_____

By _____

Statement No. 43692

RECEIPTS

Date	Item	Debit Cash	Credit Accounts Received	Debit Discount	Debit Allow'cs	Sundries			
						Account	√	Debit	Credit

FORMS 28-29-30: These forms make up what is considered a very effective voucher. The bottom form is printed on the reverse side of the voucher. The name of the payee and his address appear on the body of the check in such a position that an "outlook" envelop can be used. The vouchers are unbound and are printed three or five to a page as desired.

28, 29, and 30 are good. These are unbound and may be printed three or five to the page as desired. The stub is perforated and on it are typed all the necessary data—a description of the invoice, where entered on the books of record, and any allowances or discounts; the final amount must agree with that on the check proper. The stub is sent with the check and is detached by the creditor before depositing. It forms a statement to him of the whole reason for the payment. The name of the payee and his address appear on the body of the check in such position that an "outlook" envelop can be used for mailing. The use of an outlook envelop is again a matter of taste—many careful firms use them and other equally careful firms abhor them. Of course, there is always the danger of theft in an outlook envelop because the thief is informed in advance that it contains a check—but, on the other hand, a business check is seldom of much use to the malefactor. There is a deal to be said on either side.

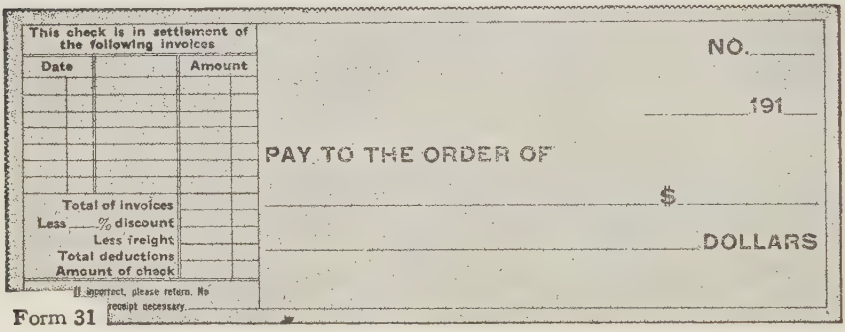
A carbon copy of the stub and check is made at the time of its drawing and this copy, being punched suitably, is bound into a cash book, forming the disbursement side. The duplicate is ruled to take in appropriate columns the necessary allowances, discounts and other possible deductions, the amounts to be charged accounts payable, and finally the net amount paid.

Not only is this form of check and its entering made in less than one third of the time taken by the older method but the possibility of error is lessened; error increases with opportunity; there is more chance of error in three operations than in one.

The voucher feature of this check has been criticised in that it does not give a true receipt. When the voucher stub is torn off, there is nothing to show for what the check was given or received and therefore, it is urged, it cannot be an absolute receipt according to the tenor of the voucher. The fundamental idea of a voucher is that it should be self-explanatory; undoubtedly the check from which the voucher is torn before deposit is not self-explanatory, for its whole story is not complete until the voucher portion is restored. The point is not of high importance; it usually arises when a debtor has endeavored to make an arbitrary deduction from an account on which there was no dispute, and has sent a check for a smaller amount than that due, with the words "in full settlement." The general law is that the payment of a smaller sum is not satisfaction for a greater, unless there be a bona fide dispute as to the correctness of the greater amount. In the absence of a dispute the law holds

that no consideration exists to sustain a contract to take a smaller sum and, therefore, the creditor may take the check, use the proceeds, and bring action for the balance.

A form in which all the reasons therefor are contained in the body of the check is shown in Form 31. This check has its receipt advantages, but it requires much more labor than the old style plain check. Probably the user will lose more money through extra labor than he will save through an added safety.


This check is in settlement of the following invoices

Date		Amount	

Total of invoices
Less ____% discount
Less freight
Total deductions
Amount of check

If incorrect, please return. No receipt necessary.

NO. _____

_____ 191___

PAY TO THE ORDER OF

_____ $ _____

_____ DOLLARS

Form 31

Special Voucher Check Forms. One popular form is an elongation of the ordinary check, space being added to contain the desired data or the statement of account for which the company wishes a receipt. The form is inconvenient and is objected to by the banks. Checks in the business world are of an approximately uniform size; the extra length of this big check protrudes and must be folded back and the flap through frequent handling becomes torn and dilapidated and not seldom limps home patched, pasted, and generally disreputable.

Another type is similar to the regular bank check, but has a voucher form on the back. While convenient to persons handling a large volume of checks, there is a banking objection in that, if it has to go through many banks, enough space is not left to record the successive indorsements and one impression may be placed on top of another which would complicate the determining of the order of responsibility in the case of non-payment.

A practical objection to having the reason for issue on the face of the check is that neither the payer nor the payee cares to have his banking house so intimately acquainted with either the destination or the source of his funds. The dislike of disclosing the reason for the check and, therefore, the possible disclosing of business secrets is usually an objection so great as to overcome

the slight additional protection which this form may afford in the case of forgery.

The large square combination voucher and check has been very popular; it fulfils all the requirements or needs of any individual or company. The principal objection comes from the bankers, and is a practical one. The sheet must be folded for convenient handling and other checks are liable to slip in between the folds and be omitted in calculation or otherwise overlooked. A check is a bank's receipt for the money which it has paid out and, failing to produce the check, it may not be able to sustain the payment. A missing check greatly upsets a bank's day.

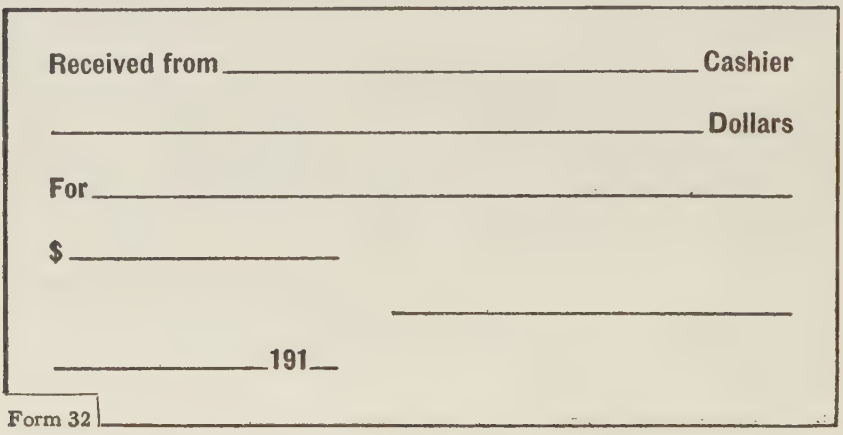
Check Protection. The man who has been accustomed to the old form of check generally asks: "What protection have I against fraud or forgery when a check is written on the typewriter?" The point was sound until the introduction of the protectograph—of which there are several excellent makes. The typewriter operator now fills in only the numerals; the words are printed by a protectograph and "raising" them is very difficult—the words and not the figures govern the amount of a check. Of course no scheme can ever be devised to wholly prevent human dishonesty—that is an impossibility. But the modern check is as safe from alteration as a written instrument well can be.

A countersignature on all checks is required by prudent organizations, but it is a sheer waste of time to insist that a large number of signatures be added. I know one corporation which provides for 17 signatures—which means that the time of 17 presumably important executives is taken from the performance of their regular tasks to the merely clerical occupation of adding a signature—for when many sign, none investigate. If the signatures are necessary to verify the correctness, then the auditing and comptroller's departments are lax.

Petty Cash Payments. Payments of small bills, the limitation of which is generally set at $10, are often made from what is known as "petty cash." This involves either the cash itself or a petty cashier's check. In the latter case, the cashier instead of carrying, say for example, $500 in cash, will have his individual bank account and will issue checks against it, no check being more than, say, $10. The checks after being audited and reconciled with the bank account are attached to the invoices and turned over to the treasurer's department. Where checks

are not used a form of petty cash voucher or petty cash receipt, as Form 32, is desirable.

At the end of the month the cashier files the vouchers or receipts in an envelop, Form 33, and records the figures as well as their distribution on the outside. The items on the individual vouchers are entered and distributed to their proper departments. This total is turned over to the treasurer who enters it as a petty cash disbursement in one item and returns a check to the cashier in the same sum to make up the amount between the disbursements and the standard balance adopted for the cashier.



Form 32

Petty cash is the bugbear of business; it is the hardest to keep down in amount and the easiest in which to commit fraud. As a means of protection to the company's interest, the vouchers when placed in the envelop and turned over to the treasurer should be audited and an approval placed on each individual voucher. In the writer's experience the man higher up has often such confidence in his cashier that he will not examine the detail of the vouchers and often not even open the envelop.

Cashiers have been able to defraud their companies of many thousands of dollars, through the lax performance of the superiors. Close executive supervision of petty cash will undoubtedly tend to eliminate fraud, but there is a question whether the time of an executive can well be devoted to such a small matter. However, this apparently small matter may run into very large figures. The ultimate check on errors or dishonesty in the petty cash will be found in the analysis of expense, or through the cost system given in later chapters.

The Payroll. In some lines the payment of the labor is the largest single expense, while in others it is relatively insignificant as compared with the total volume of transactions. However, in every case the payroll is a more or less awkward matter with which to deal.

Quite aside from the question of getting a dollar's worth of work for a dollar expended is the further question of seeing that the dollars paid are actually devoted to the payment of an individual for services rendered—that is common honesty in disbursing the wage funds. Dishonesty, unfortunately, is not particularly uncommon when the number of employees becomes so large that their identities are unknown to the executives.

PETTY CASH

From_____ To_____ Paid by check No._____

Book entry No._____

Express	Postage	Carfare	Etc.	Etc.					Sundries	
									Account	Amount

most frequent frauds arise out of conspiracies between the payroll clerks and the superintendents or foremen by which they create dummy employees. It is almost impossible to prevent dishonest men in positions of trust from cheating on the payroll. Proper accountancy will quickly show an executive an undue increase in labor in any department and will therefore promote an investigation which will disclose that mythical individuals are receiving wages; but this is a remedy which can be applied only when the illness has appeared and it is preventive merely to the extent that the conspirators must carefully watch to see that they do not steal enough to make a serious difference on the records.

The best safeguard against fraud is the payment of labor by individual check. In several states, by statutory enactment, wages must be paid in cash and the better methods are out of the question. The objection to payment by check is that the average employee does not maintain a bank account and he feels forced to cash his check at some business house by favor, or possibly in the corner saloon. Banks will not cash checks for unidentified strangers. In a few flagrant cases, dishonest employers have arranged that their wage checks shall be cashed only at a discount in which they secretly share: this outrageous proceeding has not been uncommon amongst construction gangs in remote sections.

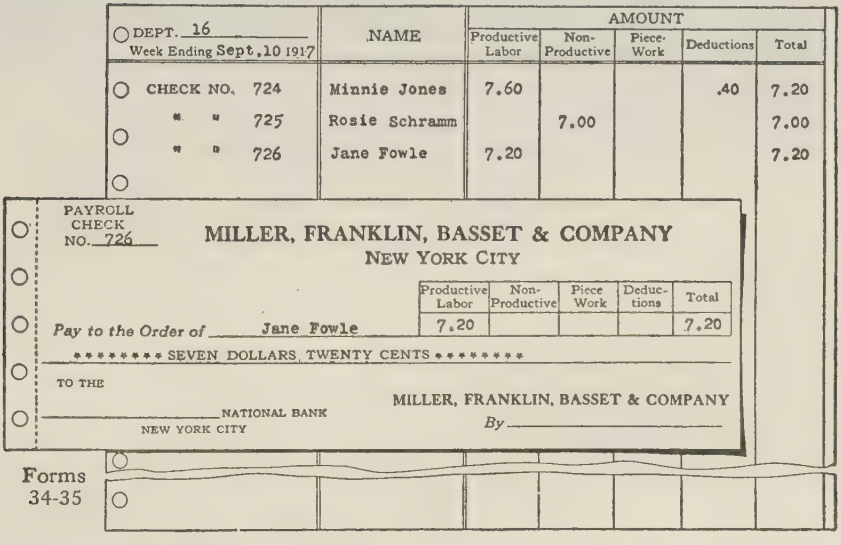
The difficulty of cashing the check can easily be met by providing funds at the plant and, although this is annoying it is not a particularly serious or expensive affair unless the number of employees be very great.

The safety in the payroll check is that each employee, when taken on is required to put an identifying signature upon a register. Before his pay check may be cashed, he must indorse it and this indorsement, being compared with the registered signature, is insurance against the dummy employee game.

How One Big Payroll Was Handled. A moving-picture company with a payroll totaling nearly $1,000,000 a year, felt that it was spending too much for labor—that they were paying for work they did not get. Ample chance for fraud existed; the greater number of their employees—supers, carpenters, actors and actresses—were hired from day to day as the pictures required. The average term of employment was scarcely a month. With such shifting labor, the interjection here and

there of a dummy would scarcely be noticed and especially as the pictures were made at various studios throughout the country.

They had been in the habit of paying cash; the treasurer would draw a single check for the entire amount of the payroll and then distribute the individual amounts in envelops to the foremen to be delivered to the employees. They decided to install a check system. When an employee was taken on, he was asked to sign a register and when the paid check came back, the cashier compared the indorsement with the recorded signature. That company saved $15,000 in the next 12 months. Someone had probably been padding the payrolls—otherwise the saving would not have at once appeared.



DEPT. 16
Week Ending Sept. 10 1917

NAME	AMOUNT Productive Labor	Non-Productive	Piece-Work	Deductions	Total
CHECK NO. 724 Minnie Jones	7.60			.40	7.20
" " 725 Rosie Schramm		7.00			7.00
" " 726 Jane Fowle	7.20				7.20

PAYROLL CHECK NO. 726

MILLER, FRANKLIN, BASSET & COMPANY
NEW YORK CITY

Productive Labor	Non-Productive	Piece Work	Deductions	Total
7.20				7.20

Pay to the Order of Jane Fowle

******** SEVEN DOLLARS, TWENTY CENTS ********

TO THE
NATIONAL BANK
NEW YORK CITY

MILLER, FRANKLIN, BASSET & COMPANY
By _____

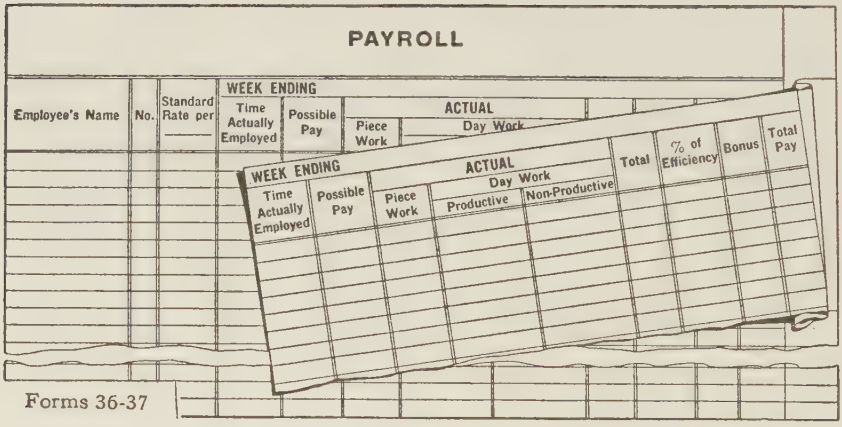
Forms 34-35

The exact form of a payroll check is a matter of individual discretion. The improved forms provide for the distribution of the wages to the proper account at the time of writing the check on the typewriter and at the same time make out the payroll sheet. In Forms 34 and 35 are columns for the various sections of the business to which labor should be charged and the amount of the check is carried out to the proper column. The headings of these columns and their number will, of course, depend upon the nature of the business, and they can be elaborated to any reasonable extent.

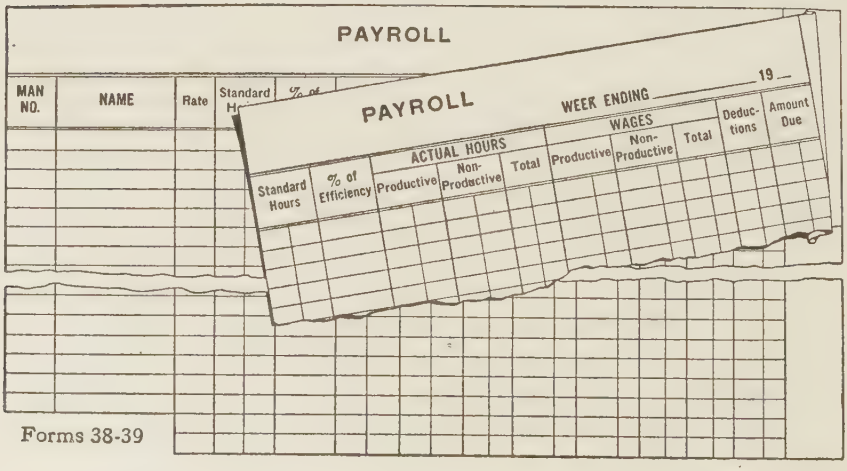
The payroll sheets serve exactly the same purpose as the duplicate sheets in the check system for paying merchandise

accounts. Adding the distribution of each sheet on the adding machine will give the total departmental payroll with a minimum of effort.

The checks are written from the payrolls of which reproductions are shown in Forms 36 to 39 inclusive, or they can be written direct from the clock or other time cards. The subdivisions will, of course, follow the business, but the point is that the payroll should contain all the needful information about the employees for future reference. The slip sheet obviates the necessity—otherwise a great burden in a large plant—of each week making a fresh copy of the names, and it also provides a guide to the labor turnover. Say 10 men are in a gang; the names of these men will be placed on the master



Forms 36-37



Forms 38-39

PAYROLL SUMMARY

Week Ending _____

Department	Hours				Wages							P. W. Earnings per Hour	% Piece Work	% Non-Productive	No. Men Paid	No. Men Same Week Last Year
	Non-Productive	Productive: Day Work	Productive: Piece Work	Total	Non-Productive	Productive: Day Work	Productive: Piece Work	Bonus	Total	Deductions	Net Pay					

FORM 40: This is another style of payroll with departmental divisions for the various classes. It permits the giving of rewards and the dropping or the changing of employment of any employee at any time with an exact knowledge of performance, both in day work and piece work.

CASH DISBURSEMENTS

Page No. _____

Month 191__	Check Nos. From	Check Nos. To	Credit Cash	Debit Accounts Payable	Credit Discount	Credit Freight	Credit Allowances	Sundries: Account	Sundries: Post	Sundries: Debit	Sundries: Credit

FORM 41: Here is shown the old-style disbursement record with all of the details of the drawing and signing of any particular check. It is shown only to illustrate the former labor waste. Payments are entered on the cash disbursement sheet and distributed to the proper bank accounts, which thus fits into the general scheme.

CASH RECEIPTS

Page No. _____

Month 19__	Item	Post	Debit Cash	Credit Accounts Receivable	Debit Discount	Debit Allowances	Sundries			
							Account	Post	Debit	Credit

Form 42

CASH RECEIVED

Page No. _____

Month 191__	Collection Sheet No.	Cash Received	Bank Distribution					Allowance	Freight	Discount	Accounts Receivable (Headed to Correspond with Ledger Division)	Sundries			
												Account	Post	Debit	Credit

FORM 43: He is another form that may offer accountants some helpful suggestions in entering cash disbursements and distributing them to the proper bank accounts. The operation of this form is quite simple and is identical with that of the others described in this chapter and is easily adapted to almost any business.

sheet and a line drawn. The names written below the line are of men taken on in place of those above and the ratio of the two lists will determine the labor turnover. If 10 names have been added, the turnover is 100%. When we consider that hiring and firing is one of the most severe cost burdens and is apt to escape notice, the opportunity always to keep track of the turnover by means of a sheet summary is most valuable. Labor turnover should be the subject of frequent reports for executive examination.

The master sheet and the slip sheets taken together give a complete record of each employee and permit the giving of rewards and the dropping or the changing of employment with an exact knowledge of performance, both in day work and piece work. Form 40 is another style with the departmental divisions for the various classes.

The Recording of the Payments. To go back to the payment of ordinary bills: The check has now been drawn, properly signed and countersigned. The invoice which it pays is stamped "paid" and deposited in the paid voucher file.

Referring to the cash sheet (which is the carbon copy of the check) the voucher number of the invoice to be paid by the check is had. This number locates the invoice in the charge register; we compare the amount as entered therein with the amount on the check. If they agree, the date of payment is stamped beside the number on the charge register, and a mark is made after the amount recorded on the duplicate cash sheet to show that the comparison has been made. That is all there is to the accounting of the payment.

In the old form of the accounts payable ledger, duplicate records were made both on the credit and on the debit sides. The same record has now been accomplished by a date stamp and the check of a pen on the cash book sheet.

In Form 41 is the old-style cash disbursement book, with all of the detail of the drawing and signing of this particular check. It is shown only to illustrate the former labor waste.

The payments are entered on the cash disbursement sheet and distributed to the proper bank accounts. One of the great advantages of using forms such as these is that the bank account or accounts very readily fit into the general scheme. The method of operating Forms 41, 42, and 43 is self-evident.

THE SPECIALTY COMPANY

The transactions for the month in the history of this company to show the principles brought out in this chapter follow:

As in the preceding chapter, only a portion of the transactions are carried out to the forms. The transactions for the month in full are assumed to be as follows:

The bills below noted were paid throughout the month, owing to the advantage of getting important cash discounts.

Elmer Frank was paid	$1,029.00 in cash, earning a discount of	$21.00
Allen Beers was paid	122.50 in cash, earning a discount of	2.50
George Andrews was paid	93.10 in cash, earning a discount of	1.90
Hawley Smith was paid	31.36 in cash, earning a discount of	.64
Interest accrued for the month		41.66
Payment of 3 months' interest		125.00
Payroll for the month		1,581.25
Purchases for the month:		
Materials and supplies		1,985.40
Expenses incurred during the month		649.85

As a result, the appearance of the ledger accounts are as shown in Forms S47 to S59 inclusive.

(Ledger) Cash on Hand

Date		Items	Fol.	Debit			Date		Items	Fol.	Credit		
Apr.	1	Balance		7	560	25	Apr.	27	Interest Accrued			125	00
							"	30	Payroll		1	581	25
							"	30	Accounts Payable		1	275	96
							"	30	Balance		4	578	04
				7	560	25					7	560	25
May	1	Balance		4	578	04							

Form S-47

(Ledger) Buildings and Equipment

Date		Items	Fol.	Debit			Date		Items	Fol.	Credit		
Apr.	1	Balance		18	500	00							

Form S-48

(Ledger) Furniture and Fixtures

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
Apr. 1	Balance		900 00				

Form S-49

(Ledger) Materials and Supplies

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
Apr. 1	Balance		10 132 00				
" 30	Charge Reg'r.		1 985 40				

Form S-50

(Ledger) Capital Stock Unissued

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
Apr. 1	Balance		69 700 00				

Form S-51

(Ledger) Capital Stock Authorized

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
				Apr. 1	Balance		100 000 00

Form S-52

(Ledger) Bond and Mortgage

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
				Apr. 1	Balance		10 000 00

Form S-53

(Ledger) Accounts Payable

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
Apr. 30	Cash		1 302 00	Apr. 1	Balance		1 834 50
"	Balance		3 167 75	" 30	Charge Reg'r.		2 635 25
			4 469 75				4 469 75
				May 1	Balance		3 167 75

Form S-54

(Ledger) Interest Accrued

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
Apr. 27	Cash		125 00	Apr. 1	Balance		83 34
				" 27	April Interest		41 66
			125 00				125 00

Form S-55

(Ledger) Payroll

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
Apr. 1	Balance		3 807 25				
" 30	Cash		1 581 25				

Form S-56

(Ledger) Expense

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
Apr. 1	Balance		935 00				
" 30	Charge Reg'r.		649 85				

Form S-57

(Ledger) **Interest**

Date		Items	Fol.	Debit			Date		Items	Fol.	Credit		
Apr.	1	Balance			383	34							
"	27	Mortgage Payable			41	66							

Form S-58

(Ledger) **Cash Discount**

Date		Items	Fol.	Debit			Date		Items	Fol.	Credit		
							Apr.	30	On Purchases			26	04

Form S-59

The trial balance, as of April 30, is shown in Form S60.

Trial Balance

Date: April 30, 1918

	Debit				Credit		
Cash on Hand	4	578	04	Capital Stock Authorized	100	000	00
Buildings and Equipment	18	500	00	Bond and Mortgage	10	000	00
Furniture and Fixtures		900	00	Accounts Payable	3	167	75
Materials and Supplies	12	117	40	Cash Discount		26	04
Capital Stock Unissued	69	700	00				
Payroll	5	388	50				
Expense	1	584	85				
Interest		425	00				
Totals	113	193	79	Totals	113	193	79

Form S-60

CHAPTER VII

HOW ACCOUNTANCY HELPS SALES

THROUGH marketing, the commodity is exchanged for money or its equivalent. The process may be simple or complex; the most complex is that of the man who both makes and sells goods, the simplest is that of the broker who buys and sells without ever having the goods in his actual possession. No questions of salesmanship can be taken up in this chapter except insofar as the fundamentals of all salesmanship are concerned—having the rightly priced goods ready at the right time. Neither will it be possible to take up all or even any large number of the almost infinite divisions of the marketing question, but the right method for any given business is merely an adaptation of the general principles to the problem which may be in hand at the time.

Anyone who sells may find in this chapter a method for his needs, even though it be described or formulated more expressly for some business other than his own. The man with a few large sales will not adopt the plans of the small department store; neither will the man who sells services need the accounts of the manufacturer. But, taking this or that plan or part of a plan here given, anyone can undoubtedly assemble factors into a smoothly working, efficient whole.

If we assume, for the moment, that the dealer knows the base price of the commodity which he is offering—in the case of the merchant this will be the price which he must pay to put the commodity in a position to sell and in the case of the manufacturer it will be the production cost—then marketing divides itself from an accounting standpoint into two great divisions: gross sales and selling expense.

Profits Require Detail Study. Not infrequently all the items under these headings are lumped; profits, however, are a question of detail study and any accountancy which makes for profit in marketing must, as a first step, install a system which

will so exhibit sales and selling expense that every phase of the operation may be examined with exactness. Most business losses arise from ignorance and self-deception; marketing problems simply resolve themselves when reduced to elements.

The Unit of Sale. The point is to discover the profit on individual sales, which means that one must first determine the costs on individual sales. It may be that costs are too high or again that the selling price is too low, but certainly neither point can be determined unless the facts are known. It is the function of accountancy to show the facts.

The unit is the individual sale; too many managers quite overlook the individual transaction—they like to contemplate sizable volumes and not the paltry single sale; consequently many reputations have been built up on the volume sales of "leaders" on which the profit was really little or nothing.

We have a case in mind of a Boston paper house. The point at issue was how to increase the profits of the business. Sales were good but profits were non-existent.

The real trouble lay in the lack of system showing the profit made on the different lines handled. Salesmen were paid a commission based on the gross sales, and though the results were frequently satisfactory to them, they were working in the dark as far as the company's betterment was concerned.

We first made an analysis to arrive at the cost of the different lines of paper sold, and, as a result, a selling plan for the salesmen was devised. All were furnished with a cost sheet and a minimum sales price list. They were then told that in the future their commission would be a percentage of the profits and not of the gross sales. In other words, on some goods that were sold practically at cost to enable the company to carry a complete line and meet all competition, practically no commission was paid. On others a commission was agreed upon so that there existed an incentive to the salesman to sell the line most profitable to his house.

The plan was received with enthusiasm by the sales force, for the average salesman possesses clear perceptive abilities, and this group of salesmen realized that they would now be able to exercise judgment to their own as well as to the company's advantage.

At the end of the year following that in which the plan was put into operation, every salesman but one had increased his

own return, and the house had made a profit of about $37,000, as against a loss in the preceding year.

Paying Salesmen on a Commission Basis. In only too many companies there exists an unwillingness to pay salesmen in accordance with what they have earned. Even manufacturers who are willing and anxious to place their factory workers upon piece work or some similar plan, are still reluctant to apply the same principle to their sales force. They take the attitude that a salesman's job is worth so much money and no more, with the result that they are obliged to stimulate sales by other and far more expensive expedients.

Paying commissions on the basis of profits rather than gross sales is now common to every careful business. Indeed many bond houses now pay on a sliding basis—the bonds on which a profit is made are rated on a commission basis while the others in which only a brokerage fee may be charged are not counted in the commissions, but are merely marked as "credits" to the salesman to determine his standing and possibilities.

Marketing Divisions. The broad divisions of selling are:

1. The manufacturer who sells his product to a single dealer, commission merchant, agent, or jobber. His sole selling expense is the commission charge, and his determination of whether or not it is more profitable for him to sell only to this one source or to market on his own account, will be determined by whether he can, all things being considered, sell at a lower price than he pays to his jobber or agent.
2. The manufacturer who conducts his own selling.
3. General merchandising or the purely marketing organization.

In selling through a single source, we have the sale of the entire product to a single jobber at a fixed price or the sale of the entire product to several jobbers. Then we also have the selling agent and the commission agent.

The jobber in most cases buys outright. The price, and all incidentals are closed with the jobber when the sale is made; then and there, the connection of the manufacturer with the article ceases, except, of course, as to such returns or the like which may subsequently arise, but to all intent the sale is completed when the goods are taken over by the jobber.

The selling agent may or may not be an actual agent of the corporation. If he be an actual agent he is in the position of an employee who pays his own expenses and receives a commission, and as such, the principal and not the agent is responsible for his contracts and engagements within the scope of his appointment. The details depend upon the exact contractual position which the agent holds with the principal. The principal and not the agent is responsible for non-delivery, must bear losses upon the goods, and attend to the collection of accounts. There is little distinction between the agent directly employed by a company and the independent selling agent, except that in the case of the latter, he pays his own selling expenses and is his own director.

Sales agents are appointed for various reasons; it may be that the manufacturer has not the capital both to make and to market his line; it may be that the sales agent has a peculiar knowledge of the market, which makes his services of great value; or again an agent may be appointed merely so that the insiders in the manufacturing company may, through participation in the sales agency, make a profit in addition to that made by the company. The last reason is not always unfair; it quite often happens that the promoters of a company have a marketing as well as a manufacturing knowledge which they desire separately to capitalize and they do so with the full consent of the shareholders in the manufacturing end.

Commission Merchants a Big Factor. A commission merchant is an independent contractor with the company. He sells to whomever he likes at the best price he can obtain, or at a prearranged price, and the company is not responsible for his acts, although in most cases he does not assume to guarantee the payment of the accounts for the goods which he sells. The commission merchant is apparently a necessity because he brings the buyer and the seller together when they might otherwise have great difficulty in meeting; he is in the nature of an open market. The method is often most uneconomical and interjects a considerable element of chance into the seller's affairs, but the commission man is and bids fair to continue to be the largest means for the disposal of raw material.

In every case the market medium will be determined by the principal on the grounds of expediency—what is most profitable under all the circumstances.

Selling Expense and Selling Deductions. Unfortunately it costs money to sell, and again, unfortunately that which has been sold does not always stay sold, because the goods delivered may be defective in quality or damaged in transit. That expense which is entailed in the actual marketing is known as "selling expense" while the allowances which are compelled to be made in order legitimately to satisfy the customer are "sales deductions." The distinction is important; each hits into the profit from operations, but the first expense is chargeable properly to the physical marketing while the latter is a charge against manufacturing. If the two lines be confused, the accurate determination of where executive pressure should be put is not possible and economies may be attempted in the wrong place. But, as in many accountancy matters, fixed rules will not give the continuously correct apportionment; the classification of the charge is to be determined by common sense under the circumstances. There are fixed rules, but I do not recommend that they be rigidly applied; instead, let each expense be traced back to its source.

If the expense be purely one of salesmanship, then it is a selling expense; if, on the contrary, it flows from something which happened in or had to do with the manufacturing, then it is a selling deduction and is to be regarded as a factory cost.

When Is Packing a Selling Expense? Packing may or may not be a selling expense. If the packing is that which goes directly on the goods such as the jars which hold fruit or the paper boxes containing biscuits, the charge is against the cost of the goods, for they could not be sold without such containers. Anything that is part of the product for purposes of identification, as individual wrappers or containers, are factory deductions, or rather are an integral part of manufacturing cost.

Packing for shipment is commonly to be taken as a selling deduction, for the cost of that packing depends upon the market in which the salesman has sold. Goods which go out to the Pacific Coast from the East require more expensive packing than those delivered in the next block. It would be wrong to charge all packing and, sequentially, all freight outward to the goods themselves. The factory has not caused the difference in costs; the discretion has been that of the salesman and the expenses must be selling items. If, however, the salesmen have different prices for different sections to cover the shifting costs

of packing and transportation, then these charges will be sales deductions, for the factory has fixed the prices to cover the added costs.

Uniform prices, regardless of territory, are, however, quite usual and it would be well for each merchant to divide his selling expenses so that he may see just how much it costs to sell in this or that district. I have never seen such a division made by a national manufacturer, selling from coast to coast, which did not show that in some sections he was selling merely to help his pride and not his profit; in distant markets, the extra packing and the high freight outward will commonly be found to absorb the entire normal profits.

When Is Breakage a Selling Expense? Breakage is a selling expense only if the breakage varies with the distance to or with the kind of transportation made necessary by the salesman. A regular, recurring breakage—inevitable in the class of goods sold, is a sales deduction. If the breakage or defects consistently appears in say only one of several classes of articles carried, the price of that article should be raised rather than the expense distributed over all the lines.

Whenever the traditions of the trade will admit, sales should be made f. o. b. the place of manufacture. This avoids putting the calculation of the freight up to the salesmen and consequently avoids the losses which occur through his inevitable mistakes, for the calculation of freight charges is often a matter for experts. If delivery charges must be paid, then a large business may find that it will pay to establish branch depots or warehouses to which the goods may be sent in bulk and from there distributed. The freight savings through large shipments will usually more than save the cost of the maintenance of the storage houses. The beef packers nearly all have such local warehouses and many manufacturers with wide markets have also adopted the plan. But the shifting of the freight to the consumer, as in the automobile business, is the most economical practice. The maker's profits can then be brought down to an exact fraction of the known costs instead of also including an average freight charge and thus the nearby buyer does not have to help pay the cost of shipping to the man far away.

In most lines of trade there are zones beyond which it is not often profitable for either the seller or the buyer to trade; good business will recognize and be guided by this fact. The

exception to this rule is the marketing of the high-priced specialty which is so profitable that the delivery costs are negligible when compared with the profits.

Selling expenses include the actual expenses incurred in the process of selling, and have two main divisions—the one chargeable to personal salesmanship and the other to the impersonal, which is broadly known as advertising.

The common sales deductions are returns, allowances, and trade discount.

Returns represent goods which are not accepted by the buyer.

Allowances are special terms or compromise settlements granted to the purchaser in consideration of his agreement not to return goods which it might be within his right to return.

A trade discount is a discount which is given with the idea of stimulating the purchase of any particular product. It is very different from a cash discount, which is in the nature of a premium paid by the seller to the buyer for the payment in cash of an invoice before it becomes due in regular course. The trade discount may be for quantity purchased, in which case it has some excuse for being, but usually it is but a cumbersome method of reducing the list price to the real price at which the seller is willing to dispose of his goods; it is a survival of the days when trade was a matter of haggling.

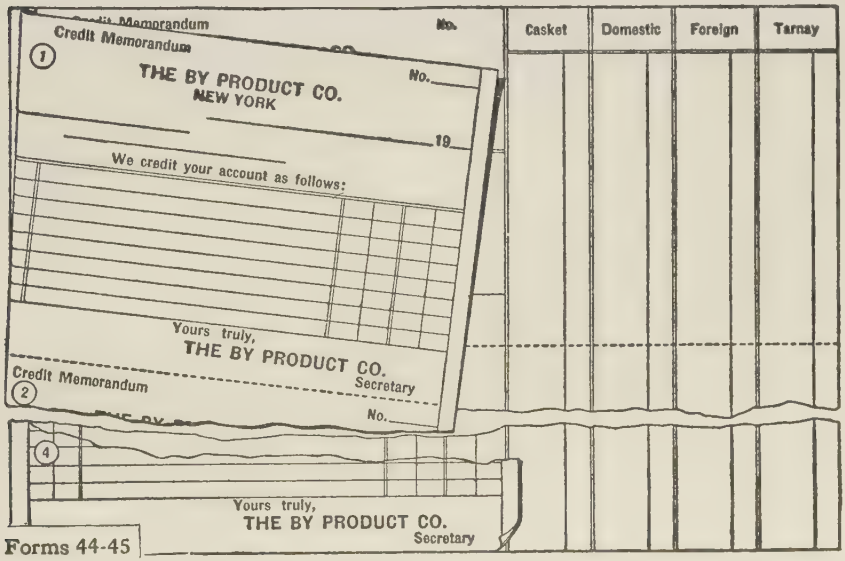
Giving Credits and Allowances. The average executive will insist upon signing each bank check—although the actual checks probably mean nothing at all to him; he will also scrutinize all invoices or at least their totals, but the giving of credit slips is commonly relegated to some clerk or other subordinate and receives no executive attention whatsoever. It is not commonly considered that a credit memorandum is as much a payment of money as a bank check and that there are far more opportunities for sharp practice in the credit account than in the bank account. I have found a number of concerns where a big share of the actually earned profit was subsequently remitted in the form of irresponsibly approved credit memoranda. Every such memorandum should be signed by a person of authority equal with those who sign checks.

All sales deductions should be subject to keen analysis. Whenever a credit has been given, the slip should go to the cost department, be entered in its proper division, and thus put into position for analysis.

Credit Memorandum. An excellent type of credit memorandum in successful use is shown in Forms 44 and 45. It follows the general idea of the bank check; the original goes to the customer; the carbon is supplied with columns adapted to the business so that the amounts allowed may be distributed at the time of writing the credit to the proper department.

Form 46 is designed for a retail house where the credits are frequent and are given to the customer on the spot. The carbons are gathered at the end of the day, distributed to the departments and their total taken off on an adding machine for cost investigation.

The whole subject of returns and credits in both wholesale and retail business is now receiving the study which it should have had long ago—before the present loose practices became so firmly established. It has not had previous attention because



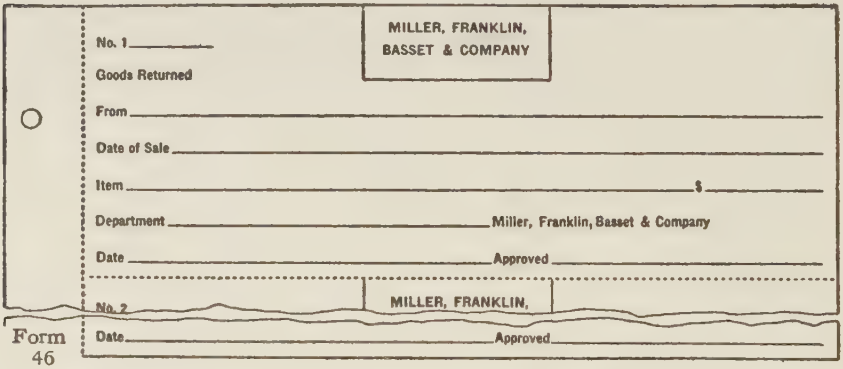
Forms 44-45

cost systems were not sufficiently in use to tell the owner just where he stood and, besides, the idea prevailed that every buyer was an asset. Customers who return goods frequently and without cause, or who insist on many allowances are not assets, and their buying should be discouraged.

I recall a jobber who was much bothered by the many returns and petty allowances demanded by the man whom he considered to be his best customer and who undoubtedly did

buy from him the largest gross of the year. I made a careful analysis of the account over several years and found, as I had suspected, that it was handled at a loss. The jobber would not believe the figures at first; he insisted that his judgment could not have failed. But the figures were right. The only course was to have a talk with the buyer on the conduct of his business and, in the event of a refusal to use reason, to turn down the account as courteously as possible.

The buyer had been thoughtless and wilful rather than deliberate in his actions; when the matter was squarely put up to him, he saw not only the justice of the argument but also he was impelled to look into the state of his own costs. He had been freely permitting returns and passing them back to the jobber, who also had been losing money without knowing it. Both men modified their rules, restricted returns, and turned the former losses into profits. Not a few of the large department stores who shift the burden to the manufacturers have been refused as customers by the men who keep accurate costs.



Form 46

Sales. The methods for recording sales will vary with the nature and the volume of the business. The effort should be toward simplicity; as the sales grow, much of the work can be done by machinery.

In the old-fashioned bookkeeping all of the invoices were copied in detail in the sales book; a $5 or $10 bill of small items would often fill an entire page. The waste was enormous.

The next development of the sales journal was the inclusion of additional columns, each representing a division or product and, as sales were made, the amounts were distributed to the proper columns, the total of the entire sales being posted to the

accounts receivable, while the totals of the different divisions were posted to separate sales accounts indicating the volume of the sales of each commodity.

This was a long step over the former method of dealing with sales only as a whole, which gave no opportunity for sales analysis, and if a business has only a few lines and the daily sales are not numerous, this method cannot now be improved upon. Merely totaling the columns will determine the lines which are selling best; with the provision of other columns to enter the cost of the articles sold, a daily gross profit by lines can be arrived at. Then the selling expenses and capital charges can be deducted from the gross and the net profit easily ascertained.

Such simplicity is only possible in the small business with but few departments or lines and a definite cost value for each article—normally the purchase price. All of the foregoing entries are made by hand—the entries being so few that the hand is quite as economical as the typewriter. The bills also being few, they can be prepared on a machine or by hand.

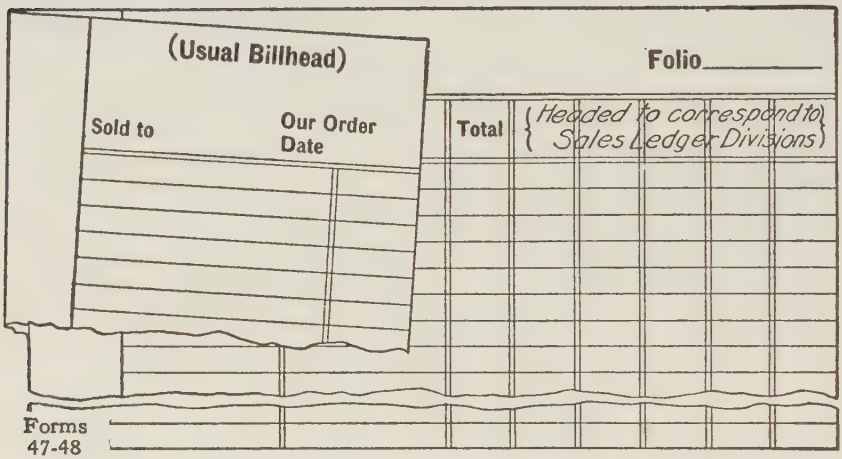
In the larger business a system more economical of labor must be used if the best results are to be attained.

Machine Bookkeeping. I do not recommend in any case the keeping of accounts on cards. They are undoubtedly convenient in some respects, but when used for accounts receivable, the danger of loss is very great. It is impossible to keep them always in the file—they must be taken out now and again and there can be no assurance that they will be returned. I have found them jammed up behind telephones where they had been taken to answer customers' questions, I have found them in the letter files attached to collection letters, in short, I have always found some of them missing and there is no check on earth to prevent this mislaying every now and again.

But even if this vital defect could be overcome, there remains a waste of motion in the use of cards which means dollars in clerical hire throughout the course of a year.

Here are the movements in posting from a card; first the card is found in the file, then it is taken out and laid down, the entry is made, and finally the card is replaced. In looseleaf methods, the motions incident to taking the card from the files and putting it back again are saved. The insurance against loss and the saving in labor make the looseleaf preferable to the cards.

Where Monthly Bills Are Less Than a Thousand. The billings for a house with less than a thousand bills a month can be cared for on Forms 47 and 48. This is designed for use on the typewriter or billing machine, as are all systems for medium and large business, and is founded on the principle that sales must be analyzed as they are made—a cardinal principle of every phase of selling. It will have been noticed that all modern bookkeeping works toward gaining as many results as possible from one operation of the clerk.



In the form given, the invoice is made as a top sheet; under it is a sales sheet and the third copy is extended with column divisions corresponding to the divisions of the sales ledger. Thus all the records may be made at the one run of the typewriter or billing machine. If the number of kinds of articles sold be small, additional columns may be added for the cost prices and thus the mere footing of these two columns will permit the instant ascertaining of the gross profits. This ready method of arriving at gross can be best used by the concern which has no factor to consider in the cost of the goods other than the price paid for them plus overhead (which is not to be considered in gross selling profits) and is therefore preeminently for the trading rather than the manufacturing concern.

The company of larger business volume cannot have the simple gross profit system as above, for it would take far too long to extend the costs. Instead the costs must be cared for by a distinct department.

Many ingenious systems have been devised for the mechanical keeping of records and nearly every very large organization has adopted some method of its own which comprehends billing and adding machines. The truly up-to-date office will not tolerate the waste of time and the possibility of error involved in clerical addition; it is doubtful if any big business could keep its records were it not for mechanical aid. They have gone far from the days of the old bookkeeper on the high stool. It would be useless to attempt to explain even a fraction of the many splendid systems in use, for each is adapted to the peculiar needs or desires of the business for which it was designed.

Simplifying the Making of Records. The thought is to make as many other records as possible when the invoice is being prepared. One method is to adopt the standard form of sales book with plain, numbered loose sheets of the same width as the invoice and about 20 inches long. The billing clerk takes the statement of the shipping clerk and from it writes the invoice, the carbon copy of the invoice goes through to the sales book sheet and also to whatever number of other sheets required for the distribution or the cost department or other records.

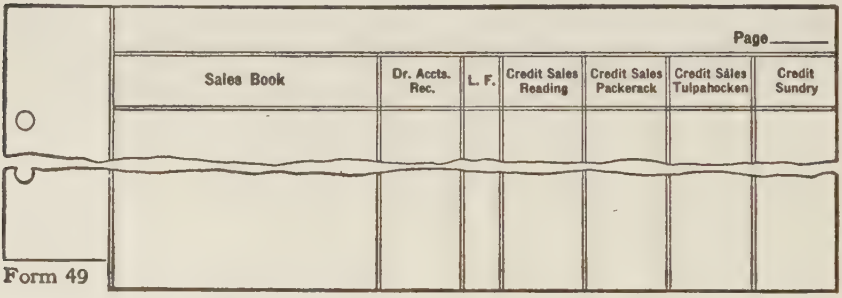
The final sheet is a proof sheet while the others have such rulings, printed matter or markings as may be desired; in some cases the bill of lading and duplicate is even written at the same operation as the invoice. The invoice or a carbon sheet is turned over to another clerk who posts the totals to the individual ledger account by another carbon system; the original is the statement to be sent to the customer at the end of the month and the copy on the ledger page constitutes the accounts receivable ledger. At the end of the month the statement is ready to be taken out from the book or file and mailed to the customer without further labor.

There are numerous accuracy checks; first the detailed invoices are taken off on the adding machine; the billing clerk's machine has an automatic device for keeping the day's total and the ledger clerk also has the totals of what he has posted. These three totals must agree. If mechanical devices have been used, there is no possibility of error unless the shipping clerk has sent up an incorrect statement.

Here is another plan which is used by a large company which keeps a stock on hand sufficient to fill each order as it comes in from the salesman. Everything is done in the one

operation. There are a number of copies. The salesman's order is taken as the guide. From it is written the invoice. The first copy goes to the office as a sales sheet, the second to the stock room as a requisition to send the goods to the shipping clerk, and the third copy goes to the shipping clerk and acts as a reminder if the goods do not arrive from the stock room.

The shipping clerk also has another copy which is on a bill of lading and is furnished to the railroad, and still another copy which he packs with the goods in an envelop marked "memo. of contents" for the use of the purchaser. When he sends out the shipment he returns one of his copies to the office which thereby knows that the invoice may be mailed. If a shipment is incomplete a new bill of lading is made out and a note is made on the invoice and the other copies of the shortage; of course, unless the great percentage of the shipments are correct, this system will not be economical, for the correction of the many copies is a laborious task.



Form 49

Where a concern has branches the system shown in Form 49 may be used; in view of the preceding explanations, it need not be further detailed.

Cash Sales. The recording of cash sales is of vital importance because of the ample opportunity for fraud. This matter will be taken up in the succeeding chapter, and it is only necessary to say here that the best possible safeguard is a cash register, which makes a check on the cash and also helps to keep a record of the stock on hand. Every sale when registered on the machine checks up merchandise as having gone out against the cash as having come in.

Selling Expenses. The accounting procedure in recording the expense involved in sales is very simple when related to

the jobber. The companies which manufacture and sell to jobbers only, do not bother to record the commission or discount given to the jobber, but carry their sales at the net price which they are to receive. They record, however, cash discounts when they allow them for prompt payment.

With the selling agent this procedure differs according to terms of the contract with the selling agent. The commissions and other expenses which have been incurred are deducted and the balance is charged to the selling agent. This applies where the selling agent makes his own collections and remits directly. Where the sales as made are turned over to the home company, the debits are to accounts receivable with the corresponding credit to sales in the full amount. The accounts involved are sales returned, sales allowances, freight outward, and the like.

The accounting end of the commission man's business is quite similar to that of the jobber. Many houses do not consider the commissions and other expenses paid by the commission man and which he deducts before paying the consignor. In that way they treat only the net or the abstract and save a considerable amount of time and labor. Other houses take all of these items into consideration with the idea of getting up certain statistics to use as a basis for future business.

There is quite an elaboration of accounts where the company conducts and maintains its own selling organization. For instance, there are the salaries of salesmen, expenses of salesmen, commissions, advertising, selling office expense, and so forth.

Salesmen's Expenses. The handling of salesmen, with their reports, their commissions and their expenses is apt to be most disagreeable. The better the salesman, the less amenable is he to rules or regulations. The pluggers will obey all the rules but they will not sell goods.

The important matter in dealing with salesmen is to know whether the man or the territory is responsible for the sales and also to know whether or not the sales which are being made are of the goods which the company most desires to sell.

Various kinds of salesmen's reports have been devised; the best are those which give the salesman nothing more than a mere scribbling to complete the record. Let cards be given to him containing the names of the people whom he is to see and all the needed data; on this he can record the simple statement of the result of his visit—a turndown, a failure to see, or

an order, and mail it back to the office. The office should attend to all other clerical work. Consider the salesman as through when he has seen the prospect.

In corresponding with salesmen, a considerable saving is effected in time and expense by the use of a form such as is shown as Form 50. It renders regular letters unnecessary and saves time both for the employer and the salesman.

The ordinary method of treating the traveling and other road expenses of salesmen is unsatisfactory. It is unfair to fix an arbitrary limit, regardless of conditions, if it is expected that the man will charge his actual expenses if they are less than the fixed limit, but pay them out of his own pocket if they exceed the limit. If there are no standards, the expense account is a subject of endless debate in bitter mood. The best plan is to standardize expenses according to a comfortable rate determined by the population of the town visited and to credit the man with the amount allowed under the rates, regardless of what he may actually spend. Thus he will make money on some trips and lose on others, but in the end both the company and the man will come out about square and all discussion of expense accounts can be avoided.

Form 51 is used where the time of the men is to be distributed as in the case of professional services. General salesmen's time need not be so distributed unless they carry several lines and it is desired to know what proportion of time is spent on each line. The form given is basic and will of course be modified to suit conditions. The advantage of standardization is self-evident. The reverse of the report fully explains its workings, and reads as follows:

Expense schedules are to be rendered for the periods from 1st to 8th inclusive, 9th to 16th inclusive, 17th to 24th inclusive, and 25th to and including the last day of the month.

Railway fare will be allowed at exactly one-way rates. An individual may buy mileage or round trip tickets and make a profit for the individual, but he must assume the risk of loss of same or not having appointments to use return tickets or mileage.

No telephone or telegrams to New York office to be charged from points where the charge can be reversed. Under no circumstances should any expense be incurred for either telephone or telegrams, where the subject is personal.

Sleeping car berths are chargeable at lower berth rates, regardless of whether lower or upper is occupied. This in order to avoid any question on this point.

Parlor car seats may be charged when the distance traveled without change of cars is in excess of 99 miles.

The living expenses, including meals, room, tips with meals, and so on, will be charged for as follows:

In towns up to		7,500	$2.50 a day
In towns from	7,500 to	15,000	3.00 a day
In towns from	15,000 to	30,000	3.50 a day
In towns from	30,000 to	50,000	4.00 a day
In towns from	50,000 to	100,000	4.50 a day
In towns from	100,000 to	250,000	5.00 a day
In towns over	250,000		5.50 a day

The population of a town or city is to be determined by the figures given in the latest issue of Travelers Railway Guide.

The town in which the client's place of business is actually located, is the one considered in this schedule. As an instance, a client located in Cambridge, Mass., would be subjected to a cost of $5 a day, though the staff member might choose to reside in Boston, the adjacent city. The distinction between a separate city and a suburb of the same city, is determined by the existence of a separate city, town, or village government. An exception is made when the town or city in which the client is located is without suitable hotel accommodation, in which event the rate of the nearest town or city having such accommodation, will be charged.

All travel to and from a client's place of business when outside of the New York Metropolitan district will be at class A rate.

For charging purposes a day will be divided into tenths, breakfast being chargeable at two tenths, lunch one tenth, dinner three tenths and room four tenths of the day's allowance. Such expenses are charged by checking the squares on the reverse side of this sheet, ten squares being allotted to each day under each class.

Upon work done in towns close to New York City and in what is known by us as the New York metropolitan district, only traveling expenses are charged.

The New York metropolitan district, from our standpoint, includes such cities, towns, and villages surrounding New York as can be reached at 9:30 a. m. by leaving some railroad terminal or ferry in New York City not earlier than 8 a. m.

No expense of any other member of a staff's family is chargeable under any circumstances.

The rule for men going to a new place to begin continuous service, is that they may charge their expenses through the following Monday at the schedule rate of the city, town, or village they are in, and thereafter they will be allowed the sum of $1.75 a day. Any service that it is known beforehand will require three weeks or more of uninterrupted service in one city, town, or village, is considered a continuous engagement.

No moving expense or charges on trunks or personal belongings are to be charged to the company, unless a staff member is going on a "continuous" engagement, in which event baggage transfer charges and railroad excess baggage charges will be allowed on 300 pounds of baggage.

Excepting when working in New York City or Brooklyn, car fare may be charged from hotel or boarding house to client's place of business, when the use of a car is necessary.

Tips: For extraordinary expenses, such as tips, checking baggage, and so on, an allowance of 50 cents will be made per day for the first whole or part of a day in any one place. No charge will be allowed after the first continuous day in one place.

Excess fare trains may be used only when it is thereby possible to save time between 8 a. m. and 6 p. m. for the client, this company, or the staff member.

The above schedule is based upon the belief that some members, economically inclined, will make a profit on this schedule, and others, more liberally inclined, will incur a loss. This individual difference should not concern the company. Hitherto the liberal men have cost the company more, and the economical men less, without either of these qualities being put into the balance of weighing the value of the individual, and this works an injustice to the economical men.

This is to apply to everyone in the company's employ, including executives, and is not designed to make any money for the company, but rather, if the average of the past be considered, to give the staff members a little gain. The company, however, gains the advantage of decreased clerical labor, avoiding the disagreeable task of criticising expense, eliminating all question of honesty, and being able to give a client a definite estimate of expense.

For the duration of the war, 15% may be added to the expenses designated as units A to H inclusive, on all contracts with new clients. Show the additional amount in the space under H on the recapitulation in the lower left-hand corner.

Salesmen's Commissions. The best method of determining commissions is through their relation to the profits made on the lines sold. A flat commission is never satisfactory to the employer and it will usually result in the pushing by the salesman of the easy selling leaders on which the profit is small.

But to fix commissions on profits, detailed costs are necessary, and the basis of all commissions should be a sheet of operations as in Form 52, shown on Insert III.

The company for which this sheet was made had thought that the real money makers were far different from those which the exact figures disclosed. It was found that some of the supposedly good salesmen were selling only the least profitable lines, while some of those salesmen who were not so highly held were really making more money for the company than were the reputed stars. The manner of making up this sheet will be more fully taken up under the cost sections of this book, but the report is here shown as the kind of a report which should be used to make up commission rates. The low profit lines, if they are not cut out entirely, will carry little inducement for the salesman to push them, while the high profit items will have a high commission which will spur the road men on to increased sales. Salesmen will see the point of the sliding scale and fall in with it.

OPERATING STATEMENT

(This statement presents totals only. Details of any items can be fur

ITEM	COMPANY'S TOTAL — This Month	COMPANY'S TOTAL — Year to Date	Distribution → This Month's	Kettles	Pots	Percolators	Chafing Dishes	Boilers	Sprayers	Regular Sundries	Bed Trim	Copper Ferrules	Fixture Trim
GROSS SALES	$183 198 75			$ 31 142 48	$ 9 981 60	$ 6 945 61	$ 44 57	$ 14 203 01	$ 115 00	$ 225 81	$ 23 954 46	$ 26 641 73	$ 16 03
Allowances	658 25			77 12	18 63	13 60	06	48 03	18	36	39 85	44 55	
NET SALES	182 540 50			31 065 36	9 962 97	6 932 01	44 51	14 154 98	114 82	225 45	23 914 61	26 597 18	16 03
COST OF GOODS SOLD:													
MATERIALS USED:													
Brass	62 019 11			2 187 43	638 47	389 91			6 11	91 22	24 752 37		
Copper	91 011 98			22 465 91	7 896 50	5 334 07		7 729 00		90 55		46 282 15	
Steel	19 377 26												
Tin	2 230 98			26 91				2 203 29	78				
Aluminum	2 088 10					2 088 10							
German Silver	9 79												
Miscellaneous material	8 369 65			3 123 43	2 001 19	1 176 42	117 49	1 827 72		93 06	29 40		
Packing material	7 122 79			2 384 33	1 340 92	235 34	14 47	1 149 32		25 83	383 92	121 87	
TOTAL MATERIALS USED	192 229 66			30 188 01	11 877 08	9 223 84	131 96	12 909 33	6 89	300 66	25 165 69	46 404 02	
Productive labor	16 700 00			3 783 43	2 546 21	1 255 58	11 82	901 96	52	80 68	5 017 33	520 18	34 60
Factory expenses	25 090 55			6 045 47	3 494 71	1 779 46	14 86	1 045 74	63	84 13	7 800 78	880 38	42 75
Total material, labor and expense consumed	234 020 21			40 016 91	17 918 00	12 258 88	158 64	14 857 03	8 04	465 47	37 983 80	47 804 58	77 35
Less: Scrap developed	41 863 70			3 601 97	1 221 29	862 05	53	597 03		16 04	8 202 71	22 561 88	44 99
	192 156 51			36 414 94	16 696 71	11 396 83	158 11	14 260 00	8 04	449 43	29 781 09	25 242 70	32 36
Less: Tools made	455 85ø			** 455 85									
COST OF GOODS MADE	191 700 66			35 959 09									
Completed goods and goods in process on hand first of month	245 157 36			71 932 53	30 010 78	7 530 46	15 179 18	15 621 46	861 73	1 734 85	74 672 46	3 737 63	1 494 59
Goods returned by customers (at cost)	1 297 03	246 454 39		351 45	92 28	173 79	2 99	172 66		47	64 37		
Inventory at beginning of month and additions		438 155 05		108 243 07	46 799 77	19 101 08	15 340 28	30 054 12	859 77	2 184 75	104 517 92	28 980 33	1 526 95
Less: Inventory of completed goods and in process on hand at end of month		290 397 53		82 377 48	38 916 03	13 911 06	15 310 87	18 456 74	499 93	2 005 37	83 233 07	10 412 37	1 508 84
COST OF GOODS SOLD		147 757 52		25 865 59	7 883 74	5 190 02	29 41	11 597 38	369 84	179 38	21 284 85	18 567 96	18 11
NET SALES (from above)		182 540 50		31 065 36	9 962 97	6 932 01	44 51	14 154 98	114 82	225 45	23 914 61	26 597 18	16 03
MANUFACTURING PROFIT		34 782 98		5 199 77	2 079 23	1 741 99	15 10	2 557 60	225 02	46 07	2 629 76	8 029 22	2 08
Selling expense		8 709 43		1 482 22	475 33	330 66	2 11	675 49	5 48	10 64	1 141 54	1 268 67	76
TRADING PROFIT		26 073 55		3 717 55	1 603 90	1 411 33	12 99	1 882 11	260 50	35 43	1 488 22	6 760 55	2 84
OTHER INCOME:													
Special harness	63 47												
Insurance rebate	1 261 59												
Discounts earned	661 34												
TOTAL OTHER INCOME		1 986 40											
OTHER DEDUCTIONS:		28 059 95											
Loss on goods returned by customers													
Aluminum kettle experiment	340 44												
Discounts given	8 47												
Interest	1 645 61												
	589 21												
TOTAL OTHER DEDUCTIONS		2 583 73											
NET MONTHLY PROFIT		25 476 22											

ø Note: This account shows a loss due to the fact that through an error in the billing department 7,500 feet of M. 6 - 2 were billed when only 625 feet were shipped. Our cost of goods sold was based on original amount. Error was caught after books were closed. Adjustment is to be made in February by following entry:

Debit goods in process (19) 247 50
Credit cost of goods sold (19) 247 50

** Tools made (materials, labor and expense) for convenience are thrown in with kettles; hence deducted from that classification.

shed.)

Chain	Checks	Grommets	Fish Trim	Whip Trim	Chisel Handle Ferrules	Special Sundries	B - L Tubing	B-J-I-L	Tube Sundries	(Balancing Entries only) Manufacturing			
										Selling	Expense	Aluminum	Chargeable
1 432 95 5 63	$ 834 13 1 52	$ 988 13 1 52	$ 291 68 61	$ 319 67 61	$ 268 92 31	$ 2 136 84 3 65	$ 60 702 74 100 70	$ 536 75 297 36	$ 2 416 64 3 96				
1 427 32	832 61	986 61	291 07	319 06	268 61	2 133 19	60 602 04	239 39	2 412 68				
213 09	589 60	896 69	56 85	26 69	58 32	931 46 629 24	29 858 57 19 206 66	180 17 6 02	1 144 16 584 56 164 58		12 25		
			5 01			4 78							
94 76 49	4 29	16 11	2 10	3 10	2 10	41 91	1 346 17		4 52	28	1 99		
290 52 183 36 207 43	593 89 65 33 101 04	912 80 78 73 132 94	63 96 22 39 48 12	29 79 80 50 131 06	60 42 24 47 42 60	1 577 39 352 45 559 48	50 409 40 1 608 60 2 449 78	186 19 7 14 10 63	1 897 82 124 72 218 56	28	14 24	8 47	519 11
691 31 606 46	760 26 115 57	1 124 47 606 89	134 47 57 49	241 35 46 47	127 49 99 02	2 489 32 1 065 80	54 467 78 2 099 70	203 96 7 31	2 241 10 50 50				
74 85	644 69	517 58	76 98	194 88	28 47	1 423 52	52 368 08	196 65	2 190 60				
4 515 58	2 632 97	5 203 70	536 08	406 01	688 40	2 914 12 390 76	4 633 80	691 00	160 03 48 26				
4 590 43	3 277 66	5 721 28	613 06	600 89	716 87	4 728 40	57 001 88	887 65	2 396 89				
3 297 05	2 601 99	4 947 41	390 17	351 77	583 48	3 016 40	7 744 46	447 13	385 91				
293 38	675 67	773 87	222 89	249 12	133 39	1 712 00	49 257 42	440 52	2 012 98				
427 32	832 61	986 61	291 07	319 06	268 61	2 133 19	60 602 04	239 39	2 412 68				
111 94 26 08	156 94 39 72	212 74 47 06	68 18 13 78	69 94 15 12	135 22 12 81	401 19 101 75	11 344 62 2 890 72	201 13 11 41	399 70 116 08				
47 80	117 22	165 68	54 40	54 82	122 41	319 44	8 453 90	212 54	283 62				

FORM 52: To fix salesmen's commissions accurately, they must be based on profits made on the lines sold, because a flat commission is seldom satisfactory to an employer as it often results in pushing the easy-selling lines. But to fix commissions on profits, detailed costs are necessary and the basis of all commissions should be a cost sheet of operation such as shown here. The operation of this form is explained on page 118.

Staff Correspondence

Miller, Franklin, Basset and Company
New York City

No.

We trust no offense will be taken at the emission of the salutation and formal closing from this letter, as no offense is intended. In becoming a custom, both salutation and closing have lost significance and when omitted, together with addressee's address and company's signature, (the sender being identified by the letterhead) a considerable saving per year in stenographic labor results.

To Mr. _____

No. 1399

Date

Send your answer to the above letter, upon the blank space provided below. If the space is insufficient, use this sheet as the first page of your letter. If no answer is to be sent, return the blank sheet so that we may know you received our communication. — M. F. B. & Co.

FORM 50: In corresponding with salesmen, a saving is effected in time and expense by the use of a form such as shown here. It renders regular letters unnecessary and saves time both for the employer and the salesman.

EXPENSE AND TIME REPORT — MILLER, FRANKLIN, BASSET AND COMPANY

Staff Member_____
Period_____(Month)_____To____(Inclusive)19__
Received_____

Distribution of Time and Expenses: Selling / Division

Sundries

Day of Month	Rail-road	Between	Pull-man	Meals and Room A B C D E F G H		Car Fares	Tips	Description	Amount	Distribution of Expenses
1 9 17 25					B L D R					
2 10 18 26					B L D R					
3 11 19 27					B L D R					
4 12 20 28					B L D R					
5 13 21 29					B L D R					
6 14 22 30					B L D R					
7 15 23 31					B L D R					
8 16 24					B L D R					
Total										

FORM 51: This form is effectively used by many concerns where the time of the men is to be distributed, as in the case of professional men. The form given is basic and should, of course, be modified to suit conditions. The advantages of standardization is self-evident. Many concerns are now using this or a similar form with success. Complete instructions for using this form are reproduced on pages 116, 117, 118.

Expense Summary		Car Fares		Explanations or Requests re Disposition of Checks:	Distribution of Time	
Railroad		Tips			1 9 17 25	
Pullman		Sundries			2 10 18 26	
____A Units @ $.55		Total			3 11 19 27	
____B " " .50		Approved:			4 12 20 28	
____C " " .45					5 13 21 29	
____D " " .40					6 14 27 30	
____E " " .35					7 15 23 31	
____F " " .30					8 16 24	
____G " " .25		Check No._____			Total	
____H " " .20					Rate $____	
					Posted	

The whole subject of marketing from the cost and accounting side is divided into two great divisions: (1) properly to charge the buyer with what he has bought, and (2) to find out in detail the profits, which means a detailed investigation of expenses and costs. The latter will be taken up under expense analysis.

THE SPECIALTY COMPANY

The recording of sales is so simple and it may be accomplished in so many diverse fashions that they will not be here recorded on any of the various forms. The items sold would be credited to sales and debited to accounts receivable. A number of other business transactions have also been included to round out the progress of the enterprise. These are all entered to the proper ledger accounts and finally a trial balance is taken off.

The following sales were made, as recorded in the sales ledger:

David Jacobs	$1,550.00	
Frank Cappell	210.00	
Edward Mann	1,075.00	
Martin Hall	662.50	
Joseph Odell	170.00	$3,667.50
Payroll for the month		$1,665.00
Purchases for the month:		
Raw materials	$1,235.50	
Expense	239.00	1,474.50
Payments made on accounts payable		2,060.70
Cash discount on purchases		42.05
Interest accrued		41.67

As a result, the appearance of the ledger accounts is as shown in Forms S61 to S75 inclusive. The resultant trial balance, as of May 31, is shown in Form S76.

(Ledger) Capital Stock Unissued

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
May 1	Balance		69 700 00				

Form S-61

(Ledger) Furniture and Fixtures

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
May 1	Balance		900 00				

Form S-62

(Ledger) Buildings and Equipment

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
May 1	Balance		18 500 00				

Form S-63

(Ledger) Capital Stock Authorized

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
				May 1	Balance		100 000 00

Form S-64

(Ledger) Bond and Mortgage

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
				May 1	Balance		10 000 00

Form S-65

(Ledger) Cash on Hand

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
May 1	Balance		4 578 04	May 31	Payroll		1 665 00
				" 31	Accounts Payable		2 060 70
				" 31	Balance		852 34
			4 578 04				4 578 04
June 1	Balance		852 34				

Form S-66

(Ledger) Accounts Payable

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
May 31	Cash Book		2 102 75	May 1	Balance		3 167 75
" 31	Balance		2 539 50	" 31	Charge Reg'r.		1 474 50
			4 642 25				4 642 25
				June 1	Balance		2 539 50

Form S-67

(Ledger) Interest Accrued

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
				May 31	Mortgage Payable		41 67

Form S-68

(Ledger) Accounts Receivable

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
May 31	Sales		3 667 50				

Form S-69

(Ledger) Materials and Supplies

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
May 1	Balance		12 117 40				
" 31	Charge Reg'r.		1 235 50				
			13 352 90				

Form S-70

(Ledger) **Payroll**

Date		Items	Fol.	Debit	Date		Items	Fol.	Credit
May	1	Balance		5 388 50					
"	31	Cash		1 665 00					
				7 053 50					

Form S-71

(Ledger) **Expense**

Date		Items	Fol.	Debit	Date		Items	Fol.	Credit
May	1	Balance		1 584 85					
"	31	Charge Reg'r.		239 00					
				1 823 85					

Form S-72

(Ledger) **Interest**

Date		Items	Fol.	Debit	Date		Items	Fol.	Credit
May	1	Balance		425 00					
	31	Mortgage Payable		41 67					

Form S-73

(Ledger) **Sales**

Date		Items	Fol.	Debit	Date		Items	Fol.	Credit
					May	31			3 667 50

Form S-74

(Ledger) **Cash Discount**

Date		Items	Fol.	Debit	Date		Items	Fol.	Credit
					May	1	Balance on Purchases		26 04
					"	31	On Purchases		42 05

Form S-75

The trial balance, as of May 31, is as shown in Form S76.

Trial Balance

Date: May 31, 1918

	Debit				Credit		
Capital Stock Unissued	69	700	00	Capital Stock Authorized	100	000	00
Buildings and Equipment	18	500	00	Bond and Mortgage	10	000	00
Furniture and Fixtures		900	00	Accounts Payable	2	539	50
Cash on Hand		852	34	Interest Accrued		41	67
Accounts Receivable	3	667	50	Sales	3	667	50
Materials and Supplies	13	352	90	Cash Discount		68	09
Payroll	7	053	50				
Expense	1	823	85				
Interest		466	67				
Totals	116	316	76	Totals	116	316	76

Form S-76

CHAPTER VIII

HANDLING THE CASH

MONEY will be received in the ordinary course of business in cash, or in bank or other checks, and it will be received for one of the five following reasons:

1. For accounts receivable.
2. For notes receivable, which include, as a subdivision, the notes receivable which have been discounted and the notes receivable which have not been discounted.
3. Trade acceptances, divided into domestic and foreign.
4. Cash sales.
5. Miscellaneous income.

The handling of each of these items and the importance of each will vary with the size and nature of the business. For instance, a commission house will have very few cash sales, while the department store will have a vast majority of cash sales. There is the concern which devotes itself exclusively to cash transactions, as most chain-store organizations. There is again the large jobbing house in which notes and bills receivable will play an important part, and the importing firm where trade acceptances will probably preponderate.

Of all these divisions the trade acceptance is the only one which is new to American business. The foreign trade acceptance is familiar to importers, but only since the passage of the Federal Reserve Act have domestic trade acceptances been used to any extent in this country. The method of their accounting is not yet entirely settled.

Trade Acceptances. The following excellent discussion of accounting procedure for trade acceptances is given by Professor E. A. Saliers, assistant professor of accounting of the Sheffield Scientific School of Yale University, in the Bulletin of the National Association of Credit Men for June, 1917.

In answer to questions submitted to 125 companies, firms, and proprietorships located in different parts of the country, regarding the accounting procedure necessary to record the receipt, discount, and so on, of the trade acceptance, a large number of carefully worded replies were received. These have been tabulated and compared, and it is the purpose of this brief article to summarize the results and draw such conclusions as may be warranted.

The first query was, whether or not it is desirable to make a distinction between acceptances and ordinary notes, for accounting purposes. As was to be expected from the present status of the trade acceptance, many concerns replied indefinitely to this as well as other questions, while some, having had no trade acceptance experience whatever, did not answer. Of those replying definitely there was about an equal division—one half favoring the use of a separate account for acceptances and the other half making no distinction between notes and acceptances.

Although it might appear from this that neither method is favored above the other, the writer is of the belief that the plan of making a clear-cut distinction between notes and acceptances is favored by those who have had sufficient experience to give weight to their opinions. There is an essential difference between notes and acceptances, which arises out of their origin and the character of the security behind them. Notes are usually single-name paper and their discount rate is higher than is that of acceptance. Clearly, as the trade acceptance is more widely adopted, it will be given a distinctive and separate account in the general ledger and it will appear under its proper title in the balance sheet.

Assuming that a separate account will be kept for acceptances, the experience of the concerns questioned leads to the conclusion that when an acceptance is returned to the maker properly filled out and signed by the acceptor, the proper entry is a charge to acceptances account and a credit to the customer. In the books of the buyer, the personal account of the seller (credited when purchase is made) is charged and "acceptances" (or "acceptances payable") is credited.

To this practice there were noted some marked exceptions. One company enters its acceptances in a bills receivable book, the same as notes, but with a distinguishing title. Another company does not enter the acceptance until it is passed through the cash book for collection. Still another handles acceptances as current cash items. Another makes a memorandum on the face of the open account. These methods possess relative degrees of demerit. As long as the number of acceptances is small there can be no serious objection to entering them in the notes receivable book. But it is certainly wrong to consider acceptances on hand but not discounted as current cash items; nor is it sufficient merely to make a memorandum on the face of the personal account.

One progressive company keeps a trade acceptance register in which the acceptances are entered according to serial number, name, address of customer, date of draft, its time and amount. From this trade acceptance register, postings are made direct to the customer's ledger accounts. After being thus posted, the acceptances are filed in a due date tickler according to time of maturity to facilitate their discount or collection. The trade acceptance register is controlled by a trade acceptance controlling account in the general ledger. This controlling account is charged at the end of each month with the

total of acceptances received during the month, and credited with the total of acceptances discounted or collected. A separate discount is not kept for acceptances.

Acceptances may be held for collection at maturity or they may be discounted. Here again the practice followed by different concerns varies. Some charge the bank and credit acceptances, apparently neglecting to show the contingent liability which exists upon the discounted acceptance previous to the date of maturity. Here, too, some make no distinction between notes and acceptances. Some close the acceptance account and open a discounted acceptance account. Probably the best procedure is to retain the charge in the acceptance account as an asset and credit an account known as acceptances discounted, at the same time charging cash with the proceeds and interest, or discount with the discount. If the acceptance is paid at maturity, as it ordinarily will be, the acceptances discounted account should then be charged and acceptances account credited with the amount of the acceptance. This is essentially the same procedure as that recommended for notes receivable discounted, the difference being merely those of terminology. However, the contingent liability on discounted acceptances is of a different character from that on ordinary discounted notes receivable, and should be shown separately.

Conclusion: There is nothing in the nature of the trade acceptance to necessitate any radical changes from the correct accounting practice already in vogue for handling notes and bills. Nevertheless attention ought to be directed particularly to the distinction between notes and acceptances arising out of their relative security and convertibility into cash. Acceptances differ widely from notes. They originate for a different purpose in most instances and they are a far more liquid asset. Consequently they should be shown separately in the balance sheet. On an average, the contingent liability upon discounted acceptances is not as great as that on discounted notes, due to the fact that the acceptance arises out of an actual transaction and represents a normal business procedure, while notes are oftentimes the direct outgrowth of failure to pay open accounts promptly, or are for accommodation and without any well-defined status. These considerations justify making a careful distinction between notes and acceptances with the possible exception of those instances where one or the other, or both, are comparatively insignificant.

Trade acceptances, therefore, may be treated in exactly the same manner as bills receivable or bills payable, with their discount provisions, except that in addition to the heading "bills" or "notes" should be "trade acceptances." No further treatment of trade acceptances will be given in this chapter for all that might be said of their accounting is said under the discussion of bills and notes.

Collections. Most of the features of that division of the business which is known as the "collection department" are more properly of credit than of accounting, since the billing of the debtor has been discussed in a previous chapter, but it may not be amiss to look at the subject from the point of profit

with the thought that a sale is really of little moment until it becomes a cash entry.

Not a few executives and nearly all sales managers and salesmen feel that the cycle of business has been completed once the order has been taken and the goods made up and delivered, and they are inclined to neglect the accounts receivable until their consideration becomes inescapable. These pertinent questions may well be self-put by almost any executive or owner:

Do you approve each one of all the allowances made upon returned goods?

Do you make a detailed list of outstanding balances?

Do you delegate the work of writing collection letters to a clerk—generally already overworked upon other tasks?

Do you look into the amount of credit allowed a customer—before the account is proven "shaky"—or do you allow the sales department representatives—to whom the making of a sale is all-important—to determine this vital detail?

Where the number of accounts outstanding is in excess of 500, it has been found advisable to detail the work of following up to a competent stenographer, who, under the supervision of one of the principals, will give all of the attention needed.

By prompt action in going after accounts when they are due, it is often possible to collect, before more aggressive creditors secure the available funds; or to determine the value of the debtor as a customer before the generally energetic sales department succeeds in passing more orders for shipment.

Competent executive consideration should always be given to the matter of goods returned; the return of a shipment means second-hand goods in stock, besides freight and handling charges both ways. This is particularly true of specials which must often be "scrapped" or "jobbed." An allowance, when made, has the same effect upon profits as a cash disbursement. Yet the average executive who carefully scrutinizes a check will allow any clerk to authorize allowances.

Worthless and Disputed Accounts. The attention of executives is directed, not only to the constant following up of accounts which merit pursuit, but also to the cutting from the books of such accounts as are not worth the time nor the money to pursue, and also to the small, disputed amounts which may be notably bad business to insist upon. The retention upon the

books of very small accounts is not good business over any extended period. These need executive attention because few treasurers will abandon them without positive instructions.

It is quite probable that the reader has at one time or another received "duns" for some small item that has already been paid, and, upon which, through oversight or poor bookkeeping, you have never been given proper credit. After voluminous correspondence, you have mailed a check to cover the amount, or ignored the letters entirely, firmly resolving to buy in the future from competitors conducting their affairs more efficiently.

The actual monetary loss, insofar as reorders are concerned, as a direct result of these "follow-up duns," cannot be measured, but it is safe to assume that the aggregate is many times greater than the original amount involved. An overpenurious treasurer can mightily handicap a sales department, and effectively decrease the company's future sales.

A Striking Illustration. The cost of carrying small disputed balances can best be illustrated by the following condition encountered during the examination of the books and accounts of one of the country's large industrial plants. Lest the impression be created that the executives of this concern were incompetent, it would be well to state that they had a reputation of unquestioned business ability. The fault lay in confining the effort to factory conditions. The office executives did not possess the necessary powers of discernment and analysis enabling them to observe the far-reaching result of false economy.

About 350 accounts averaging less than 50 cents which had been carried in "suspense" for over two years were unearthed. The statement of detailed carrying-cost of the accounts, as shown below, is based upon a very conservative estimate as we found that the credit man, drawing a salary of $3,000 per year, spent approximately one fourth of his time with these accounts.

The following is the cost of sending statements:

Time carried	1 month	12 months	24 months
Number of accounts	350	350	350
Total amount of all 350 accounts	$175.00	$175.00	$175.00
Postage	$7.00	$84.00	$168.00
Stationery	1.75	21.00	42.00
Clerical labor	10.50	126.00	252.00
Total cost	$19.25	$231.00	$462.00
Cost per account	.05	.66	1.32

To the above must be added the "dunning letters," at the rate of one a month.

Months	12	24
Postage	$ 84.00	$168.00
Stationery	12.30	24.60
Labor	168.00	336.00
Total	$264.30	$528.60
Cost per account	.75	1.51

Consequently, even when only statements were sent, the cost in two years would be $462, and with letters added, $990.60. The amount originally involved in this case was about $175. Obviously, aside from the irritated customers developed, the cost of collection exceeded any possible return.

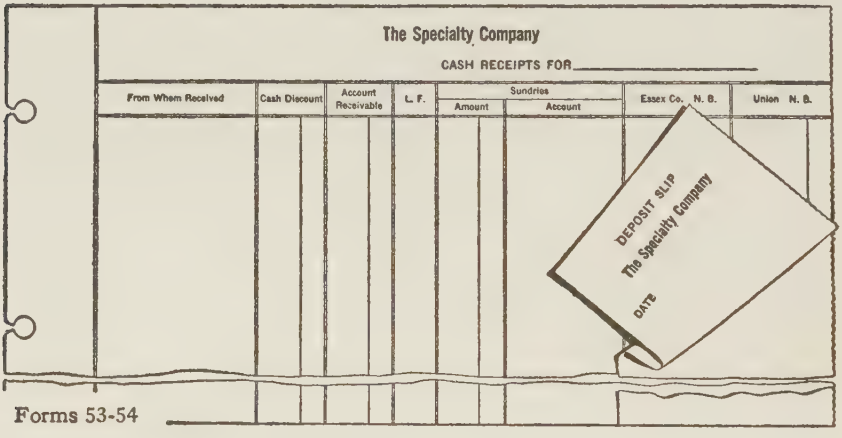
Receipts. The ordinary form of cash book is a journal with a column arrangement with captions for the handling of the net amount of cash received. As a general rule, the next following account is that of "discount" representing cash discounts allowed. Both of these columns are debit columns, for the purpose of representing what cash has come in and what discounts have been allowed. The opposing credits to these two debits are represented in the columns entitled "accounts receivable," "cash sales," and, where there is a large volume of transactions with notes from customers which are in turn discounted at the bank, an extra column is inserted headed "notes receivable, discounted."

In addition to these there is generally a "sundries" column. The sundries column is ruled to give enough space for the explanations, and two columns representing debit and credit. In many final adjustments of accounts, where an account receivable and an account payable exist and a settlement has been made, the final adjustment can be run directly through the cash receipt book. (See Form 41.)

An improved and more economical form of cash receipt record has been devised. This form is on the reverse side of the cash disbursement sheet (Form 30) already referred to in our disbursement chapter and contains all the principles which are explained in preceding chapters. The advantage of this system is that, where there are a large number of small receipts, the sheet can be inserted in the typewriter and the entries quickly transcribed. In a large paper box concern, average daily reports numbered about 150 individual items; to make the entries in longhand

required a little over an hour; but, done on the machine, never took longer than 35 minutes.

The Collection Sheet. Another form of receipts record is the collection sheet. This is made in duplicate, the original going to the bookkeeper in order that he may post to the credit of the debtors, and the duplicate going to the cashier who distributes the receipts to the bank or banks of deposit. Thus the duties of the cashier and the bookkeeper are quickly performed without either interfering with the other's work. This form is varied somewhat if only one or two banks are used. In Form 53, designed for this use, a perforated slip (Form 54) is attached to the margin which, when folded over and a carbon placed between, records the distribution to the banks of deposit and being torn off is used as a slip to turn in with the deposits.



Forms 53-54

The cash receipt book is another time-saving device of great use to executives; it is the receipts side of the cash book and holds only the total of the receipts each day, so that one page will contain the receipts for the whole month, and, if more than a single bank be used, the distribution of the receipts in bank deposits. By taking off the daily totals from the carbons of the voucher checks with their bank distribution, there is daily at hand the receipts and disbursements, the bank deposits, the checks drawn, and hence also the bank balances. Without this summary sheet the totals would be available only after a laborious taking off of entries. Executives are primarily interested in abstracts; they can call for detail if they desire them.

Cash Receipts. In most of the smaller stores little or no check is kept upon the cash receipts, and they are not coordinated with the stock on hand. They are correct if the individual who happens to be taking them is honest, and they are short if he is dishonest; in neither event do the receipts tell the owner anything. If a sale be made off the floor, it may be recorded or again it may not be. Cash is always a nasty item to handle, and it affords many opportunities for petty theft.

Another point, not of accounting but of profit growing out of accounting, is that the constant preservation of the relation between sales and stock will permit the arrangement of stock on the scientific basis of the sales; that which is most in demand will be nearest at hand, and so on through the whole list. In a store in a country town, a rearrangement of stock on the exact basis of sales permitted the whole selling easily to be cared for by two clerks where formerly three had been overworked.

It is always advisable to have the cash handled by some person other than the one making the sales, because then two people must conspire before theft is easily possible; the record of the salesperson and the count of the cashier's receipts will serve as checks on each other.

But where, as is often the case, one person must both sell and handle cash, then the cash register, in one of its numerous forms, is the best known safeguard against stealing. A failure to ring up sales at the true amount will soon be detected and the total receipts as kept by the machine will check the cash which should be on hand.

The safest of all systems is that used in the public markets of New England. A sheet called a "traveler" is given to the customer on entering; on this the various clerks enter the purchases and the amounts, making note on their own records of the number of the traveler. The sheets are in two colors, one for goods to be delivered and the other for those to be taken away; the first are assembled in the delivery room and the other at the entrance. On leaving, the customer pays the cashier the total charges on the sheet and receives a receipt. There is here no chance for fraud; the customer will not get the goods unless the sheet is paid, and the slips of the salespeople, as well as the paid traveler, check the cashier.

The Autograph System. The autograph system has many different forms. That which is generally used in department

stores is a small slip, printed in duplicate and perforated; the divisions on the slip are designed according to the business. The salesperson records all the necessary facts of the sale at the time of its making, and a carbon between the sheets gives a duplicate. The duplicate is generally inserted in the package which has been purchased; the original goes to the cashier's office, either with the cash or, in a credit transaction, to the credit man for verification as to the purchaser's standing. If the credit is passed, the slip then travels forward to the bookkeeper to enter the charge. When the salesman has filled up a book, it is returned to the office and the total of the sales serves as a check on the cashiers and bookkeepers.

In another form of autograph register the original sheet is carbonized on the back in order to avoid the extra effort of inserting carbon sheet. While a considerable length of time may be saved in the course of a year or so, it is debatable whether the time saved will offset the extra cost of carbonizing the original sheets.

Roller Autograph Registers. Still another form of autograph register is on a roller. The copies may be had in triplicate or quadruplicate, as desired. With this system more elaborate checking is possible; the original goes to the purchaser, and, where there are a large number of cashiers, the duplicate to the cashier with the cash. The last two copies are generally preserved on the rollers in the machine; one of them goes to the main accounting department, which checks up the list on this roll with the receipts as turned over by the different cashiers, while the fourth copy is for the files of the cost department.

The selling of tickets in amusement places presents another phase of the problem. Where only admission is in question and all seats are either alike or in only two or three general divisions, the tickets are put in rolls and serially numbered. As a roll is turned over to the person in the selling cage, the treasurer notes the first and the last numbers. The missing numbers at the end of the day or at the end of that cashier's period of duty, determine the amount of cash that should be on hand from sales.

When the tickets have various prices, and each calls for a particular seat, the checking procedure varies from the above only in detail. The number of seats in each section is known by the management and missing tickets must be replaced by cash in the till or proper authorizations for "complimentary"

passes. The torn-off stubs which are thrown into the box as the holder passes through the entrance give an additional check.

Restaurants sometimes have difficult cash problems because of the transient character of waiters and the large number of waiters who must be taken on for a day or two in busy times. A double check is necessary. A checker takes note of the items on the waiter's order blank, stamps the prices thereon, and also stamps them on a tally sheet under the number of the waiter.

In well-regulated establishments the cashier adds the final card for the customer and receives the money from the waiter, a receipt stub being torn off for the customer. The total collections of the cashier must agree with the totals of the tally sheets; if they do not agree, the tally sheets are compared with the waiter's checks and the error located. The loss must be between the cashier and the waiter, and the payment is usually divided between them. Waiters taken on for the day are not commonly paid until after the tallies are made up.

Two Kinds of Collections. Collections are in two divisions, (1) by mail, and (2) by collectors. Mail collections are attended to as a rule by the cashier. In very large businesses the cashier handles the checks only after all other records have been made. When collectors are used, the cashier is the final recipient of the cash collected, and in a way is absolved in accounting from any deficiency which may arise through the misappropriation by the collectors.

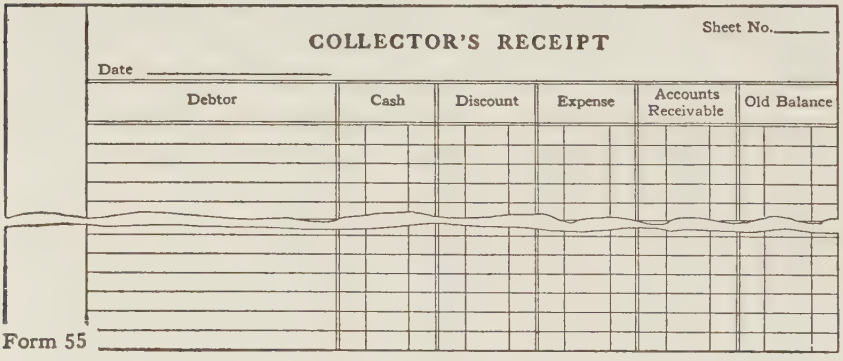
The chances for loss through inaccuracy or petty theft by the use of collectors are great. The collector has an excellent opportunity to graft a dollar here and a dollar there, and by paying one day's thefts with the receipts of the next can continue stealing for an almost indefinite period. Take the case of a well-known gas company which had over 80% of its meters on the "slot" basis. The collectors took in from $10,000 to $12,000 a month in cash. No actual supervision over these men was kept, and there was no checking up on the meter records. It was decided to shift the collectors about, and immediately most of them quit their jobs. The receipts under the new arrangement exceeded the old by several thousand dollars a month!

Collection honesty is best preserved by frequently switching the men to different routes; then the confusion in bills will promptly show up previous dishonesty. A simple form of collector's receipt is given in Form 55.

Entering the Receipts. The receipts are simply the settling of the accounts receivable; the billing of these accounts was taken up in the preceding chapter as well as the sending out of statements at the end of the month, the statements being made out, in the more advanced styles, at the same time as the ledger account. In the smaller concern the statements will be made at the end of the month by hand.

The same procedure as is followed in the making of the ledger accounts is followed with the receipts; they are entered on the collection sheets or the cash book as described earlier in this chapter, and only the totals posted to the proper ledger accounts by hand or by one of the methods similar to that used for the ledger accounts.

Since all accounting should produce records that can be analyzed, it is desirable to distribute collections according to geographical or collection districts for executive study. The whole matter of entering receipts is simple and is shown in the progress of the hypothetical company which is being recorded.



COLLECTOR'S RECEIPT

Sheet No._____

Date _____

Debtor	Cash	Discount	Expense	Accounts Receivable	Old Balance

Form 55

THE SPECIALTY COMPANY

In order to keep the headway of the company the usual purchases and disbursements are made, but, for the first time, receipts come into the accounting. The transactions are stated in a general way to give material for the proper ledger accounts.

Purchases for the month of June, 1918:

Materials and supplies	$1,477.10	
Expense	636.15	$2,113.25
Payroll for the month		1,350.75
Interest accrued		41.67

Disbursements:

Accounts payable....$1,802.22; cash discount	$36.78
Imprest petty cash fund created	150.00
Sales	14,350.25

Receipts:

Sale of 97 shares unissued stock for	9,700.00
From accounts receivable:	
In cash....$2,053.97; discount	63.53
Note for 90 days with interest at 6%	1,550.00
From sale of scrap	150.00
Proceeds of note discounted at bank, 60 days	4,950.00

The foregoing transactions are reflected in the ledger accounts as shown in Forms S77 to S95, inclusive.

(Ledger) Capital Stock Unissued

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
June 1	Balance		69 700 00	June 10	Sale 97 Shares		9 700 00
				" 30	Balance		60 000 00
			69 700 00				69 700 00
July 1	Balance		60 000 00				

Form S-77

(Ledger) Capital Stock Authorized

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
				June 1			100 000 00

Form S-78

(Ledger) Buildings and Equipment

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
June 1	Balance		18 500 00				

Form S-79

(Ledger) Furniture and Fixtures

Date	Itema	Fol.	Debit	Date	Items	Fol.	Credit
June 1	Balance		900 00				

Form S-80

(Ledger) Cash in Bank

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
June 1	Balance		852 34	June 30	Payroll		1 350 75
" 10	Sale Capital Stock		9 700 00	" 30	Accounts Payable		1 802 22
" 30	Accounts Receivable		2 053 97	" 30	Petty Cash		150 00
" 30	Scrap Sales		150 00	" 30	Balance		14 403 34
" 30	Note Payable		4 950 00				
			17 706 31				17 706 31
July 1	Balance		14 403 34				

Form S-81

(Ledger) Petty Cash

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
June 30	Cash		150 00				

Form S-82

(Ledger) Accounts Receivable

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
June 1	Balance		3 667 50	June 30	Note Rec.		1 550 00
" 30	Sales		14 350 25	" 30	Cash		2 117 50
				" 30	Balance		14 350 25
			18 017 75				18 017 75
July 1	Balance		14 350 25				

Form S-83

(Ledger) Notes Receivable

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
June 30	David Jacobs		1 550 00				

Form S-84

(Ledger) Bond and Mortgage

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
				June 1			10 000 00

Form S-85

(Ledger) Accounts Payable

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
June 30	Cash		1 839 00	June 1	Balance		2 539 50
" 30	Balance		2 813 75	" 30	Charge Reg'r.		2 113 25
			4 652 75				4 652 75
				July 1	Balance		2 813 75

Form S-86

(Ledger) Note Payable

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
				June 30	City Nat'l. Bank		5 000 00

Form S-87

(Ledger) Interest Accrued

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
June 1				June 1	Balance		41 67
				" 30	Mortgage Payable		41 67

Form S-88

(Ledger) Materials and Supplies

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
June 1	Balance		13 352 90				
" 30	Charge Reg'r.		1 477 10				
			14 830 00				

Form S-89

(Ledger) Payroll

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
June 1	Balance		7 053 50				
" 30	Cash		1 350 75				
			8 404 25				

Form S-90

(Ledger) Expense

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
June 1	Balance		1 823 85				
" 30	Charge Reg'r.		636 15				
			2 460 00				

Form S-91

(Ledger) Interest

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
June 1	Balance		466 67				
" 30	Mortgage Payable		41 67				
" 30	Note Payable		50 00				
			558 34				

Form S-92

(Ledger) **Sales**

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
				June 1	Balance		3 667 50
				" 30	Sales		14 350 25
							18 017 75

Form S-93

(Ledger) **Cash Discount**

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
June 30	Accounts Receivable		63 53	June 1	Balance		68 09
	Balance		41 34	" 30	Accounts Payable		36 78
			104 87				104 87
				July 1	Balance		41 34

Form S-94

(Ledger) **Other Income**

Date	Items	Fol.	Debit	Date	Items	Fol.	Credit
				June 30	Sale Scrap		150 00

Form S-95

The resultant trial balance is shown in Form S96.

Trial Balance

Date: June 30, 1918

	Debit				Credit		
Capital Stock Unissued	60	000	00	Capital Stock Authorized	100	000	00
Building and Equipment	18	500	00	Bond and Mortgage	10	000	00
Furniture and Fixtures		900	00	Accounts Payable	2	813	75
Cash in Bank	14	403	34	Notes Payable	5	000	00
Petty Cash		150	00	Interest Accrued		83	34
Accounts Receivable	14	350	25	Sales	18	017	75
Notes Receivable	1	550	00	Cash Discount		41	34
Materials and Supplies	14	830	00	Other Income		150	00
Payroll	8	404	25				
Expense	2	460	00				
Interest		558	34				
Total	136	106	18	Total	136	106	18

Form S-96

CHAPTER IX

BALANCING THE BOOKS

IN previous chapters we have looked at the recording of the various transactions which go to make up the cycle of business from the purchase of and payment for the raw materials to their sale as finished products and to the resulting cash receipts. From time to time ways for detecting losses have been pointed out, but the real reason for the doing of business—the making of a profit—has not been touched upon.

Why the Books Were Opened. The records have all been made for the purpose of discovering: first, whether our venture was profitable; and second, how the result came about. In the system of double entry bookkeeping which has been followed, the records have been of two sorts—the fact records such as cash, accounts receivable, accounts payable, and the like; and the historical records such as merchandise, labor, and all the so-called "nominal" accounts. The first class of records inform us of our standing; the second, of how we arrived at it.

To find out the result of our operations through the period we must first "close the books." Under the present-day practice the name—as are so many names which have survived in bookkeeping—is somewhat misleading. Instead of defining the phrase according to its literal meaning, take this definition of the results of the process: "the assembling of the accounts to discover the condition of the company or individual which exists at some given time."

In the foregoing chapters no attempt has been made to cover all the possible transactions in all the possible divisions of business; a volume of 10 times the size of the present one would not be nearly large enough for such a task; even if a human mind could make provision for every entry in every detail of every kind of enterprise, the resulting compilation would not be of much practical use. For books cannot be kept by purely formal instructions; there cannot be devised a scheme which

will permit a vacation of the brain of the man who makes the entries and the substitution of numerous directions therefor.

Accounting Principles are Universal. The principles of recording are simple; once the general system is understood, then the application gives little trouble. The principles have been given; if they are not now plain, they should be studied until they are perfectly clear. An uncomprehended system of accounts will work havoc wherever it is installed. There is nothing about any phase of accounting in any single business which the ordinary business man should not be able to grasp and therefore to apply in practice. There is no mystery in good accounting; only the charlatan will seek to create a mystery.

The same "principles" of accounting will apply to any kind of business; I have taken the manufacturing division because it has more accounts than a concern which sells, say, only personal services. The wholesale and retail merchants are between the two extremes. A more detailed study of the problems of several divisions of business will be given later in this volume. Now the thought is to get the fundamentals firmly in mind.

Obviously, among the professions, the engineer who sells his services only, has little if any need for the elaborate purchasing and stores system that I have detailed. His purchases are restricted to drafting room and office supplies. But he should keep track of his supplies, for they are many and it is all-important that they be on hand when needed. Loose supervision of expenditures for supplies means less profit. We have sketched the skeleton to be used in most business accounting systems. That skeleton is to be dressed to suit the particular need; many of the variations will be later developed.

Closing the Books in the Old Days. A step that is common to all accounting is "closing the books"—in other words, ascertaining the profit.

Long ago, closing the books was a momentous matter and was attempted only infrequently. The term "closing the books" was probably derived from the literal practice. Inventories were taken, such inventories embracing all physical possessions—ships, cargoes, stores in foreign countries, "bills" receivable from customers, sums loaned, and all else that had a value, most of which, in the days of single entry bookkeeping, had not had a place on the books. The task was as much a process of memory as of bookkeeping, the bookkeeper often being

only an aid or scribe, the listing and pricing being a task undertaken by the partners.

In addition to the listing of the assets, giving the total resources available—and the assets were then generally termed "resources"—the commitments or liabilities were listed. The latter were deducted from the sum total of the resources and the result was the firm's net worth. If the net worth exceeded that of the preceding period, the difference was the profit; if a decrease were recorded, a loss had been sustained.

This setting off of liabilities against assets gave an approximate result in dollars, but the figures gave no clew as to the origin of either profit or loss. The profit or the loss was the result of the operations as a whole. The great step in modern accounting has been the localizing of profit or loss.

It is true that formerly separate calculations were made of certain transactions; a contractor might keep accounts for this or that job and determine his profits thereon; but he seldom calculated in the materials which he had on hand before the job began and he knew little or nothing of overhead expense; the jobs on which he figured that he had made a profit were quite as often losses as gains unless the margin of profit had been out of all proportion to the costs. Manufacturers seldom counted other than the total transactions of the year and had nothing more than rough estimates of the actual state of their various articles of fabrication or of their markets.

Merchants frequently kept tally of single deals; they discovered their gross profits. For instance, if ivory were bought on the West Coast, they knew the purchase price, the carriage to Europe, the cost of handling, and the selling price. The selling price less the costs gave the gross profit, but no means existed for determining the selling expense or any of the other numerous items which make such inroads on gross profit. There were no harmonious, interlocking systems of accounting to bring business into a cohesive mass.

Therefore, since only after closing the books could the results of the year be had, the date of footing up and setting off was epochal. The business traveled from year to year in anticipation and sometimes in dread of the final findings. Once the books had been closed, they passed out of active use and into the archives of the business, where the neatly labeled tomes joined their predecessors in the dusty vaults. Then new books were "opened."

Modern Closing of Accounts. Today progressive companies seldom or never close their books in the old sense of ruling off all accounts, putting aside the books and opening new volumes. The accounts are often ruled off once a year or oftener for convenience and new accounts started with the balance brought forward for the start of the next fiscal period; but these new accounts are directly under the old accounts if space remains on the page; they are ruled off only to save useless additions; the looseleaf ledger has helped toward common sense in the physical matter of accounting.

Since the general ledger contains only abstracts of the accounts, it has comparatively few entries; a single page will often hold the items of a not very active account for several years. The advantage of having previous years in the ledger is plain; it saves tne time consumed in the ceremony of getting out the books of former years to trace back accounts about which some question has arisen. Modern bookkeeping sacrifices no convenience for mere formality. In the older methods, convenience was never considered.

Closing the books has lost its importance, its epochal character, because it is not now the only way of discovering conditions. As will later be seen, cost accounting provides a much more accurate and convenient method.

To close the books is to balance and rule off all of the accounts on the general ledger—this is the formal closing. A less formal and more practical way is to take off a "trial balance" of these accounts and from this trial balance to construct a "statement of condition" and also a "statement of operations."

Do Not Close Too Frequently. Many concerns actually close by balancing off all of their accounts every month and transfer the profit or loss, as the case may be, to their profit and loss account. This involves too much detailed and useless work.

Quite a number of concerns close up quarterly or semi-annually. The disadvantage of periodic closing in a large business is that the accounting department cannot always get in all of the charges which are applicable to the period. Sometimes the charges are forgotten and the period thus gives false results; or, if they are picked up in time, a number of so-called surplus of profit and loss adjustment entries are made necessary. The net result is a loading of the bookkeeper with purely formal, non-profit-making labor.

The practical way is to close the accounts once a year—at the end of the fiscal period. But the ascertainment of profits cannot wait a yearly period. Therefore construct a trial balance —which will give all the accounting facts—once a month. If the accounts balance, one generally need not worry about a clerical error having been made in that month, and thus an error in a subsequent month can be localized.

Many companies still close their books once a year only—and close formally. Others, with modern systems, have the ability to close more frequently—semiannually, quarterly, monthly, weekly, and in the case of some companies, notably financial institutions, daily. The oftener you know your condition, the better off you are. On the other hand, too frequent and close consideration may spoil the perspective. For ordinary purposes, a monthly review of operations, and the resulting financial conditions, is sufficient.

The books are closed and the statements made as of a particular time. If as of December 31, the statement runs to midnight of that day and the new accounts start immediately. There is no period between the closing of the old books and the opening of the new—no lapse in accounting—whether the closing be actual and formal or only a fiction.

The first step is to balance the books—to have all of the respective accounts agree as to debit and credit. There is a distinction between "closing" and "balancing." The balances are taken only to make sure that no errors have been made in the mathematics.

Why the Book Records Are Incomplete. The books will show the total sales and the total expenses. The total sales less the total expenses will not give us the profit, because one highly important factor is missing—what we have in stock. Take the Specialty Company, whose fortunes we have been following, as a concrete illustration. The accounts already given show that the company has made expenditures for goods intended to be sold or for expenses incurred in the course of operating, namely:

Materials and supplies	$14,830.00
Payroll (expended for labor)	8,404.25
Expense	2,460.00
Interest	558.34
Total	$26,252.59

The sales amount to $18,017.75. If we have sold all our goods, costing with processing and other expenses $26,252.59, we shall have lost approximately $8,000. The amount of money we have made therefore depends upon what proportion of the goods purchased, plus fabricating expenses, is represented by the sales made. That can be ascertained only by deducting the goods still on hand from those bought to find the amount shipped—that is, the amount represented by the sales.

The books which the Specialty Company has kept do not show what we have in stock or what proportion has been shipped; they show only the sales price received for an undetermined proportion of the total purchases. In short our books show everything but the goods left, and the value of these must be determined by counting and valuing—by taking an inventory.

The Inventory. The value of the raw materials and supplies, the goods in process of manufacture, and the finished goods, are the uncertain items. In the case of a trading concern, there will be only the goods on hand for resale and the incidental supplies, but although the classification of items is reduced, the number of items will probably be greater than in the manufacturing business and the value will also proportionately be greater, so that the inventory is critical.

It is possible to keep a perpetual inventory so that a physical count is seldom necessary. Where this is possible it should be done. Where commodities are handled in bulk, such as coal or wood, it is easy to keep track of exactly how much remains by weighing what comes in and what goes out and making an allowance for shrinkage fixed after careful experiments; or, if only a few lines or large articles are handled, the process is equally simple and obvious. But in retail merchandising it is too cumbersome a task to deduct each sale from the stock. The retail system for this purpose is given in Chapter XXII.

The Relation of the Inventory to Profits. The inventory, in the absence of a cost system, is the first real step toward ascertaining profit. It is complicated or simple according to the nature of the business. If proper stock records have been kept as described in Chapter V and a physical count has been made on the receipt of purchases, it will not be necessary to stop business at all or to make another count. All the facts can be had from the cards. In a retail store, the detailed stock records are scarcely practical and an actual count must be made. But,

in general, the inventory should always be taken (and thus the fiscal period is determined) at the season of the year when the stock will commonly be at its lowest point.

The several practical methods of taking the physical inventory of materials and supplies are scarcely matters of accounting. The best method is the one which will give accurate results in the shortest possible time. If the stock be large, a team arrangement is desirable; some very large plants precede the inventory by a crew which counts and places tags on the articles or groups of articles.

The inventory is not taken of fixed assets such as equipment, buildings, and the like, for they are already on the books. It is true that we loosely use the term "inventory" to describe all of the physical assets of a concern, but as ordinarily employed the word denotes only the material and supplies—whether raw, in process, or in the form of finished goods.

The Question of Pricing. It is the pricing rather than the manner of taking of the inventory which is here important. The rules for values are arbitrary and, to some extent, unreasonable, but they are accepted everywhere and bankers look askance at any departure from them. Here they are:

1. Value at cost.
2. If the cost is above the market, then value at the market.
3. If the cost is below the market, do not raise the values—keep them still at cost.

It is not logical to bring down cost to the market and at the same time refuse to raise the inventory if the market is above the cost; but the procedure is so established that it should not be departed from. And also it does prevent a mere bookkeeping profit from appearing as an actual profit. An excellent practice is to value according to the above rules and attach a footnote showing the increased values according to market prices. This gives the necessary information without inflation.

Recently while prices have been rising, the question of the value of material contracts has come up. If you have a contract for the purchase of material at a price which, at the inventory time is below the market, undoubtedly that contract is a liability. But what of the advantageous contract? Is it not an asset?

Undoubtedly, under these circumstances, a company actually possesses something of value aside from its customary book assets. The considerations are several, and all depend upon the surrounding circumstances. Let us instance sugar, steel, and so forth, which have a daily changing market value. The presumption is that if all materials on contract were delivered before the day of accounting they could be disposed of at the market price. Of course the market might break somewhat before the unloading was completed.

Ordinarily, however, the manufacturer is entitled to call the present excess in value above the market price a profit which he has made through speculation, chance, or—as he will doubtless call it—good judgment. Sometimes contracts are sold to others at an increase, if the original buyer cannot use the goods, and the potential profit is proven to exist. So much for the buyer of a staple item having a daily market price.

The process cannot, however, be as easily followed by the buyer of uncommon commodities such as sponges, some chemicals, and so on. Here a price can be obtained, but it is in the nature of a quotation at which more can be bought and the manufacturer is without assurance that he can sell at that price.

Where Experts Disagree. Say the public accountants: "An inventory on hand must be taken at cost—you must not appreciate, for you are without proof that you can sell at the appreciated price." But if the market drops below the cost price the practice proves inconsistent, for then the public accountants demand reserves for possible loss, neglecting the fact that if, when the market is up, we cannot give assurance that we can sell at the market price, there is similarly no assurance when the market is down, that we must sell at that price.

A careful accountant, when he discovers the existence of contracts for undelivered materials which, until delivery, necessarily do not appear on the general ledger, must needs show on the balance sheet a "contingent liability for so and so much."

I admit the desirability of putting inventories in at cost, for that is a definite quantity, and if the market is down, deduct from profit and establish a "reserve for possible loss on inventory," and if unshipped contracts exist, show the fact in orthodox fashion, even to the extent of setting up a further reserve if the materials the manufacturer must later take were contracted for at unfavorable prices.

When the Market Is Up. But if the market is up I try to give the manufacturer his due in the statement. I again inventory at cost but, by means of an asterisk and a footnote, inform the reader that at today's market price, an added value exists, which though not made a part of surplus, because the act of sale has not been consummated, deserves consideration as a potential asset. Similarly, while still denoting contingent liability on contracts for undelivered contracts, I do not hesitate to state that, at today's market, a potential added profit of so many dollars exists, which is not included in the surplus. This presents the actual condition of the company without including a purely book profit on the statement.

This method of directing attention to today's actual standing, but not altering the surplus, is eminently fair. A contract that today might justly be regarded as an asset, tomorrow may be a liability.

A caution must be had against "conservative" appraising for the inventory and thus setting up a reserve in the price of the goods themselves instead of in a distinct reserve account. Unless the inventory costs are correct, the subsequent profit figures will be incorrect and one may be led to sell at too high a price and thus lose business.

When the Price Fluctuates. Where the raw material fluctuates rather rapidly, as brass or copper, some concerns inventory a fixed part of their stock at an arbitrary price which is well below any figure the market will be likely to reach. Then the remainder of the stock is priced at market, or at cost if the cost is below the market. One manufacturer who followed this plan complained that he could not sell at a profit against the prices of his competitors; I found that the only reason he could not meet competitors' prices was that he carried his inventory too low; it absorbed so much of his values that the apparent profit was considerably lower than the real profit.

If the raw material values fluctuate, carry them at cost and set up a reserve for the difference between the cost and the market value. Then you will be both safe and accurate.

The merchant has to consider only the stock in hand; he knows how much it cost him and he knows the market, therefore he can find his inventory values with accuracy even if not with dispatch in the absence of the cost system. But the manufacturer who has transformed some of the goods which he bought

by adding to them labor and supplies has two additional inventory heads—"goods in process" and "finished goods"—neither of which he can exactly value without a cost system.

Goods in Process. Only a cost system can give more than an approximation of the value of this item and hence it is that the manufacturer without cost accounting never knows his real profits. The amount of labor, material, and manufacturing expense which has gone into the item is estimated with the best knowledge available, but only by rule of thumb. You can give an expert guess and that is all; there are no rules for guessing, and no accurate method of knowing without a cost system.

Having found all the facts within your reach and made your best guess, you must make sure that your guess does not exceed the selling price of the completed article. It seems almost absurd to give this caution, but unfortunately it is quite necessary. I have found many manufacturers and contractors who had not detected that the cost of the work had exceeded its possible value and they were charting losses as assets. In any large contract, figures should be devised to show from month to month percentage of completion and to compare the cost with the contract price.

For instance, if the contract price is $100,000 and the contract, 40% finished, has cost $37,500, inventory at that figure. But if the cost is $50,000, do not carry at $50,000, for then you will be inflating your assets, as you still have $60,000 in work to perform. You must take as an asset what the contract is really worth to you at that point—$40,000—and charge off $10,000 against the period as a loss. If at the end of the second year the contract has cost $120,000 and is not yet finished, you know that you are faced with a loss of $20,000 plus the amount that it will take to complete. Have an outside estimate made of the sum necessary to complete. Say this sum is $7,000. Your contract is worth $100,000, less the $7,000 to finish it and you have already lost $20,000. Therefore appraise your contract as an asset at $93,000 and charge off $27,000 as a loss.

In large operations a safe practice is to divide the job into sections according to the original bid. Then provide "progress sheets" for each section with the estimated cost thereon; as the work goes forward, transfer the costs to the progress sheet and thus keep a continuous tally between the actual and the estimated cost.

Finished Goods. Here again we cannot have accuracy without a cost system. It may seem to the reader that I am harping too much on cost accounting, but my experience teaches me that good business is impossible without exact cost finding and that approximation, however skilful, is dangerous to profits, but experience has established the importance of a cost system.

The common method of estimating the value of finished goods is by reference to the price that they will bring. They should not, however, be priced at what they are expected to sell for, because they are not yet sold and the market may change before they are sold. If put in at the selling price, a false profit is created. If you have not a cost system, try to discover as best you can what the goods actually cost you to put into the finished condition. It is quite useless to give rules of procedure here, for they are more difficult to apply than is a cost system to create, and, in the end, are only misleading.

Finding the Profit. We have now the inventory figures in hand. What shall be done with them? Take up again the fortunes of the Specialty Company. Its inventory has been taken and the following figures found:

Materials and supplies	$ 2,480.00
Goods in process of manufacture	4,320.00
Finished goods	3,600.00
Unused advertising material	250.00
Office supplies	126.50
	$10,776.50

or a total of $10,776.50 of the materials and supplies originally purchased and the expenses incurred. Besides that we learn that $49.16 of the interest paid was paid in advance for the loan that still has some time to run. So we take the $26,252.59 of materials and supplies purchased and expenses incurred; first deduct the $49.16 interest prepaid, leaving $26,203.43 and from that sum deduct the $10,776.50 representing the goods which we still have on hand. The residue is $15,426.93; and that is the value of the goods we have shipped and for which we have received (or are to receive) $18,017.75. Therefore a trading profit of $2,590.82 has been made.

Later in the detailed statement it will be found that $191.34 of cash discounts have been earned, resulting in an ultimate profit of $2,782.16. We are mentioning the ultimate figure merely so that the reader will be able to identify it later.

The profit has been ascertained through the taking of an inventory—through the supplementing of the books by figures which did not appear on them. It has been a backward traveling process and, without counting up what we had on hand, we could not have found out profits. But suppose a cost system had been in use.

Illustrating the Point. To illustrate the difference let us go through the same transaction on the assumption that the Specialty Company possesses a cost system.

First, we should have made entries recording the purchase of materials and supplies, the payment of labor, and the expenditures for the interest, the total aggregating the already mentioned figure of $26,203.43. The process would parallel that already followed. But we should not have to take a physical inventory to discover what we had on hand. Under a cost system we should always know the cost of the goods sold, for we should have the costs of each item as the process of manufacture went forward; the materials and supplies, labor, expense, and so forth, used therein would have been deducted from time to time from the accounts recording them and have passed into an account termed "cost of goods sold."

At the end of the period this account would amount to $15,426.93. Deduct that figure from the sales of $18,017.75 and we have a trading profit of $2,590.82, which, when added to our miscellaneous income of $191.34 gives us the same profit shown by the other process—$2,782.16; or deduct the $15,426.93 cost of goods sold from the purchases and expenses amounting to $26,203.43 and we have the same total inventory secured before—$10,776.50—without the trouble of counting.

Moreover, because the account termed "cost of goods sold" accumulated as rapidly as the sales in the sales account, the inventory—and therefore the company's condition—could have been ascertained at any date desired. In showing the two plans we are anticipating our later story of costs and how they are obtained.

We will first show how the books are closed and how a statement is prepared in the more primitive fashion—beyond which many will not want to travel—and we will later demonstrate how the already existing methods can be added to and made immensely more valuable by the addition of a cost system, be the business trading, jobbing, or manufacturing.

From the preceding it has been noted that the Specialty Company, with its present books, cannot ascertain its condition without taking an actual and physical count of stock.

Closing Entries. The inventory of the Specialty Company reveals the figures we have mentioned, but which, to make the explanation clear, are again given:

Materials and supplies	$ 2,480.00
Goods in process of manufacture	4,320.00
Finished goods	3,600.00
Unused advertising material	250.00
Office supplies	126.50
Total	$10,776.50

A search of the trial balance taken June 30 and appearing at the end of Chapter VIII will not reveal any of these figures. Obviously, they must be put on the books. So, as a step in closing, we make the following journal entries:

Dr. Cost of goods sold	$25,694.25	
Cr. Materials and supplies		$14,830.00
Payroll		8,404.25
Expense		2,460.00

There is no immediate connection between the preceding and the inventories; the entries are made because the accounts no longer represent anything except a history of the cause of certain disbursements; the various items have long since, through the processes of manufacture, become merged in goods in process or finished stock. For that reason all the accounts pertaining to the product are merged under the title "cost of goods sold." This title, of course, is premature, for all of the goods have not been sold.

The next entry provides the connection, because such goods as are still on hand are taken out of the account and placed in separate inventory accounts to inform us of those goods we still have to correct the "cost of goods sold" account so that it truly tells the cost of the product shipped.

Dr. Inventories:		
Materials and supplies	$2,480.00	
Goods in process	4,320.00	
Finished goods	3,600.00	
Advertising material	250.00	
Office supplies	126.50	
Cr. Cost of goods sold		$10,776.50

The Specialty Company
Statement of Condition As of June 30, 1918.

Assets				Capital and Liabilities			
Property, Plant and Equipment				Capital Stock			
Buildings and Equipment		1850000		Authorized 1000 shares		10000000	
Furniture and Fixtures		90000		Unissued 600 "		6000000	
Total Property, Plant and Equipment			1940000	Issued 400 " par value $100.00 each			4000000
				Bond and Mortgage			1000000
Inventories and Current Assets							
Inventories:				Current Liabilities			
Materials and Supplies	278000			Accounts Payable		281375	
Goods in Process	432000			Notes Payable		500000	
Finished Goods	360000			Interest Accrued		8334	
Total Inventories		1040000		Total Current Liabilities			789709
Current Assets:							
Cash in Bank	1470334			Surplus (See Exhibit "2")			278216
Petty Cash	15000						
Accounts Receivable	1435025						
Notes Receivable	155000						
Total Current Assets		3045359					
Total Inventories and Current Assets			4085359				
Prepaid Operating Expense							
Prepaid Interest		4916					
Advertising Material		25000					
Office Supplies		12650					
Total Prepaid Operating Expense			42566				
Total Assets			$ 6067925	Total Capital and Liabilities			$ 6067925

FORM 56: Having arrived at the trial balance which is merely a listing of all the items of the business under appropriate headings, the accountant begins to distinguish between operating accounts and the assets and liabilities. The first gives the statement of operation, the second the statement of condition. This form as well as others shown on the inserts in this section will prove helpful in arriving at accurate results.

The Specialty Company

	Trial Balance Before Closing June 30, 1918 Dr	Trial Balance Cr	Trial Balance after Entries described on Page — Dr	Trial Balance Cr	Operating Dr	Accounts Cr	Statement or Balance Sheet Dr	Statement or Balance Sheet Cr
Capital Stock Unissued	$ 400000		$ 600000				$ 600000	
Capital Stock Authorized		$ 1000000		$ 1000000				$ 1000000
Buildings and Equipment	185000		185000				185000	
Furniture and Fixtures	9000		9000				9000	
Cash in Bank	177033		177033				177033	
Petty Cash	1500		1500				1500	
Accounts Receivable	143502		143502				143502	
Notes Receivable	16500		16500				16500	
Bonds and Mortgages		$ 100000		$ 100000				$ 100000
Accounts Payable		28137		28137				28137
Notes Payable		50000		50000				50000
Interest Accrued (Not Payable)		834		834				834
Materials and Supplies	148300		248000				248000	
Payroll	81725							
Expense	24000							
Interest	5534		50918		50918			
Sales		$ 180177		$ 180177		$ 180177		
Cash Discount		713		713		713		
Goods and Store (Miscellaneous)		1500		1500		1500		
Prepaid Interest			4916				4916	
Cost of Goods Sold			$ 1491775		$ 1491775			
Inventory of Goods in Process			432000				432000	
" Finished Goods			360000				360000	
" Advertising Materials			25000				25000	
" Office Supplies			12650				12650	
					$ 1542693	$ 182009	$ 1206792	$ 1178497
Profit					27822			27822
Sum plus	$ 1361018	$ 1361018	$ 1361018	$ 1361018	$ 1820909	$ 1820909	$ 1206792	$ 1206792

The Specialty Company.
Statement of Operations for the Six Months Ended June 30, 1918.

Sales			$ 1801775
Cost of Sales:			
Purchases, Materials and Supplies	1483000		
Payroll	870425		
Rent	63000		
Heat, Light and Power	11500		
Factory Expense	18775		
Total Purchases, etc.		2416700	
Deduct Inventory June 30, 1917		1040000	
Cost of Goods Sold			1376700
Gross Profit on Sales			$ 425075
Selling Expense:			
Advertising		105000	
Commissions		10075	
Total Selling Expense			115075
Net Income from Operations			310000
Other Income:			
Cash Discount on Purchases		10787	
Sale of Scrap		15000	
Total Other Income			25787
Total Income			$ 335787
Deductions from Income:			
Cash Discount on Sales		6353	
Interest Paid		50918	
Total Deductions			57271
Net Profit for the Period			$ 278216

Journal

June 30		
Profit and Loss Dr.	1542693	
to Cost of Goods Sold		1542693
Entry to Close Account		
Sundries to Profit and Loss		1820909
Sales	1801775	
Cash Discount	4134	
Other Income	15000	
Entries to Close		
Profit and Loss	278216	
Surplus		278216
Profit for the Period		

FORMS 58 and 59: The term "profit and loss" is sometimes confusing. It is better expressed by the English term "profit or gain." It is arrived at after the trial balance has been made by listing the various accounts on a sheet such as those shown on the three inserts in this section.

We have also at this time discovered that we have prepaid interest on our notes to the extent of $49.16. The prepaid amount is in the nature of an inventory value because we have not actually used the interest, which covers a future period. We make an entry treating the item as though it were an inventory:

Dr. Prepaid interest.....$49.16
Cr. Interest.....$49.16

We have recorded the result of our physical inventory and are ready to close the books and prepare our statements. To do so we must ascertain what belongs to the profit and loss account and what to the account of assets and liabilities.

The term "profit and loss" is confusing. It is really "profit or loss" and is better expressed in the English form "loss or gain." It is the haven for the operating accounts—for the money which has been paid out of the business and is no longer represented by an asset of a form corresponding to the entry. For instance, labor is not still in the business as such, neither are used materials or supplies. The definition is more formidable than the actual working of the account in practice.

Having arrived at the trial balance, which is merely a listing of all the items of the business under their appropriate heads, we begin to distinguish between the operating accounts (the profit and loss) and the assets and liabilities. The first gives us the statement of operation, the second the statement of condition. The working sheets to ascertain these results are invaluable. They are shown in Forms 56 to 59 inclusive, and reproduced on Inserts IV, V, and VI.

CHAPTER X

HOW TO ARRIVE AT YOUR STATEMENT OF CONDITION

AT the close of the fiscal period of any business (usually a year) comes the preparation of the "statement of condition"; or the representation in abstract form of the financial worth of the business institution. It is at this point that the individual, partnership, or corporation determines an exact standing in the commercial world by translating all of the assets and liabilities into dollars and cents and exhibiting them generally—though not necessarily—in parallel columns to disclose the net worth. Because the two sides of the account must balance, the statement was formerly termed a "balance sheet," but the best title—the title that really denotes the reason for being—is "statement of condition."

What Purposes the Statement Serves. Such a statement is essential to good business. During part of the year many items of profit or loss must, of necessity, remain more or less undefined; the statement of condition drives away all the mists and exhibits the concern in its actual condition, so that it may be studied with precision. It is the starting point for almost every business extension, for every important business step; it is required as a basis for banking and often for mercantile credit of a current nature; it is essential when new financing is to be made and it should always be on view before either individual or corporate profits are determined or paid. It is the character certificate of a business.

Because "statement of condition" is a somewhat formidable phrase and the proceeding to obtain one may seem to demand the training of an accountant, the small business does not often so check up, and possibly that may be one of the reasons why the small venture so often fails. Regardless of size, every business should pause at stated intervals and take account of itself—pull in all the loose ends and see how things size up. The task is

simple or complex according to the nature and the size of the concern, but it will never be a job of appalling magnitude unless proper accounting has been grossly neglected.

Neglect of Statement Grounds for Suspicion. When the preparation of a statement of condition is neglected, the natural and usually justifiable suspicion arises that the business affairs will not bear scrutiny. Sometimes the real condition is not arrived at because of sheer negligence, but often those in control of a concern know that their books will not bear inspection, and they avoid a knowledge of the exact truth either for themselves or for their creditors.

Here is one of the worst cases which I have ever met. A company wanted to know privately what an audit would show—they wanted an examination which would warn them what to expect in an audit which had been asked by promoters prior to a merger. I made the examination. The books were grossly incorrect in nearly every important particular. In the physical inventory were retained buildings and machinery which had been torn down or taken away years before; depreciation had been limited to two very prosperous years.

As far as I could discover, the treasurer had never classed an account as bad; there were unpaid accounts four and five years old, and, on all the accounts on the books, correspondence with the supposed debtors disclosed that about 90% refused payment, claiming that the bills had been rendered for work which should have been included under original contracts. I had to subtract some 30% from the plant and equipment item and wipe out nearly all the accounts receivable. The assets shrunk to but a shadow of their former robust selves, but what they lost was well made up on the accounts payable! These were quite few in number and I was not surprised to learn that the bookkeeper never entered an account as payable until after it has been paid. I wrote to all the men with whom the concern had dealt and an avalanche of bills came rushing in. The accounts which they had not listed, amounted to nearly twice the entire value of the assets; the company was insolvent.

Were they grateful for the report? Not at all; they locked it securely in the safe and went merrily on with their affairs until some creditor forced them into bankruptcy. The officers escaped criminal prosecution only because the creditors were so disgusted that they did not care further to bother with the crew.

The concern which makes out an honest statement of condition at the end of each fiscal period will never deceive itself and will have always at hand the facts for such statements as banks and merchandise creditors desire. True statements are the best possible introduction to a bank—they are an assurance of intelligent business methods.

The Form of the Statement. A certain amount of convention exists as to the form which statement of condition should take. The usual form, and it is recommended, is Form 60, shown on Insert VII. It is not the best from several standpoints, but it is in such general use that it is not wise to depart far from it. Bankers and credit men know this form; the frequent totals of divisions of the assets and liabilities permit of quick comparisons between related items by the skilled credit investigator. Any other form, even if in itself more desirable, would be less effective because it would call for questions from the man who likes to see things at a glance.

The presented form is designed for a corporation because most business is done under the corporate form. For an individual or a partnership there are no changes on the asset side except that the head "treasury holdings" is stricken out for the reason that this item contains only the stock of the corporation itself, while an individual or a partnership does not issue stock. On the liability side the heading changes from "capital, surplus, and liabilities" to "capital and liabilities." All of the items relating to the capital stock come out, and in their place are listed the names of the partners with their original contributions plus such accretions as they have added from the profits and a new item termed "undivided profits" which represents the profits that have been earned but not yet apportioned, and hence are temporarily suspended in this account. The surplus account is of course eliminated. All the other heads for an individual or a partnership follow those of a corporation.

The statement of condition is a summary; it is well to supplement it by schedules giving in detail the composition of each item so that the further study provoked by an examination of the sheet may have the minute facts on which to work. In the present chapter the proper make-up of each item will be discussed with relation to the summary sheet.

The steps preliminary to making up the statement of condition were discussed in the chapter on "Balancing the Books."

STATEMENT OF CONDITION

as of _____

ASSETS

PLANT AND EQUIPMENT:
List all proper items. When advisable to give excessive detail, schedule such detail and refer to the schedule number on this balance sheet. Depreciation should be deducted on the face hereof, but under no circumstances is net figure only to be shown.

TOTAL PLANT AND EQUIPMENT

GOODWILL:

TREASURY HOLDINGS:
List all of company's own stocks and bonds which may have been actually issued and returned to the treasury.

TOTAL TREASURY HOLDINGS

SECURITIES OWNED:
List all securities owned and held as investment. If there are a great number, schedule the details and refer to schedule number on this sheet.

TOTAL SECURITIES OWNED

SINKING FUND:
List such funds as have been set aside in accordance with the provision of any outstanding mortgages. If mortgages exist, ascertain if the provision of a sinking fund is demanded therein.

TOTAL SINKING FUND

INVENTORY AND CURRENT ASSETS:
INVENTORY:
Summarize inventory valuations.

TOTAL INVENTORY

CURRENT ASSETS:
Include such accounts as Cash, Accounts Receivable and other current items.

TOTAL CURRENT ASSETS

TOTAL INVENTORY AND CURRENT ASSETS

DEFERRED ASSETS:
List such items as cash surrender value of life insurance policies, probable return on mutual fire insurance policies and so forth.

TOTAL DEFERRED ASSETS

PREPAID OPERATING EXPENSES:
List unexpired insurance, prepaid interest, advances to agents, prepaid royalty, and so forth.

TOTAL PREPAID OPERATING EXPENSES

TOTAL ASSETS

CAPITAL, SURPLUS AND LIABILITIES

CAPITAL:
PREFERRED:
Authorized _____shares, par value
Unissued _____shares, par value
COMMON:
Authorized _____shares, par value
Unissued _____shares, par value

TOTAL CAPITAL STOCK ISSUED

BONDED INDEBTEDNESS:
First Mortgage __percentage Due _____
Authorized
Issued

Second Mortgage __percentage Due _____
Authorized
Issued
Other issues if they exist

TOTAL BONDED INDEBTEDNESS

CURRENT LIABILITIES:
List all current liabilities including accrued items.

TOTAL CURRENT LIABILITIES

RESERVES:
List reserves set aside other than depreciation in plant and equipment, and Accounts Receivable.

TOTAL RESERVES

SURPLUS:
Eliminate all possible detail from this account on balance sheet. In presenting a Statement of Operations, whenever it can be done, show at the foot of the statement the surplus at the beginning and end of the period, so that the balance of the Statement of Operations together with its exhibit number, will be the only figures carried to this balance sheet.

FORM 60: This is the customary form a statement of condition appears in. It has been used for years and has become well established. Many accountants and bankers agree that in some respects it could be improved upon, but it is questionable whether or not a departure from this form would be wise, inasmuch as the majority of bankers and credit men are so very familiar with its classifications and totals. The procedure for arriving at the totals and the various classifications are fully explained in this chapter.

TOTAL CAPITAL, SURPLUS AND LIABILITIES

T
tion
will
and
poss
inte

vent
shou
60,
poir
far f
tota
com
gate
be l
who

mos
indi
side
for
cor
issu
"ca
All
the
cor
pro
sen
and
sur
for

me
ite
the
pr
cu

tic

Dividing the Assets. The entirety of the assets is broadly divided into "quick" or "current" and "fixed" assets and the liabilities into "current" and "fixed." It is important to keep these distinctions in mind because much of the credit (and therefore much of the success, for credit is based only on the actuarial calculations of success) depends upon the relations between these various classes of assets and liabilities. The limits of the items cannot be set by definitions which will cover all cases; as in all accountancy affairs, the rule is to use common sense under the circumstances, but the general, guiding definitions are these:

"Fixed assets" are those properties which have been bought for future operation of the business and which will not be disposed of while the business is operated. An obvious exception is the disposal of wornout or obsolete machinery.

"Quick assets" are that part of the capital which is fluid and which travels in the business cycle of (1) cash, (2) the exchange of cash for materials, labor and so on, (3) the exchange of the results of the preceding exchange for accounts receivable and, (4) the exchange of accounts receivable for cash. It is to be expected that, should the business stop operations at any time, the cycle will complete itself.

"Fixed liabilities" are determined by the element of time in their payment which takes them out of the cycle of business, such as mortgages and other stated obligations of long time and which are generally secured by the "fixed assets."

"Current liabilities" are the liabilities which flow from the operation of the cycle described under "quick assets."

Fixed Assets. The fixed assets are generally the real estate, buildings, machinery and other property which go to make up the equipment for doing business. They cannot readily be removed, and were they removed, might have practically no value except as scrap. The land value is fixed, insofar as appreciation may acrue, by location. Likewise, the buildings may be adaptable to one line of business and to no other.

Machinery and equipment are also dependent for value upon the nature of the business. But the figures to be used in the statement are not the forced sale prices, for the statement is presumably that of a going business and not of an odd lot of equipment offered at auction; therefore it is proper to use original costs less the depreciation through wear and tear or obsolescence.

This subject is more fully treated in the chapter on depreciation. The best practice is to inventory the real estate and equipment at cost and set up a reserve against depreciation.

The net figure should be carried out in the last column, but under no circumstances should the reserve first be deducted and only the net shown. The sheet should carry the original cost as well as the depreciation. When credits to these accounts arise through the sale of property or equipment, the credit or credits should be made to agree with the original charge or the proportion of the charge carried by the article sold.

The Depreciation Reserve. Where a reserve has been created to provide for depreciation and a certain amount of that depreciation carries the particular item being sold or disposed of, the proper procedure is to take out of the reserve the proportion applicable to the article and set aside during the previous years' operations, and if the amount so reserved is not sufficient to provide for the loss sustained through the disposal of the article, the difference should be charged directly against the accumulated surplus as a loss. Thus the credit entry is the total cost of the article which is deducted from that section of the property, plant and equipment, while the debits vary in accordance with the circumstances.

To illustrate: A company possesses two motor trucks which cost $3,000 each. They are entered at cost and are posted to a ledger account finally appearing as in Form 61.

(Ledger) Trucking Equipment

Date 1915		Items	Fol.	Debit	Date	Items	Fol.	Credit
July	1	1 Motor Truck		3 000 00				
"	6	1 Motor Truck		3 000 00				

Form 61

(Ledger) Reserve for Depreciation of Trucking Equipment

Date		Items	Fol.	Debit	Date 1916		Items	Fol.	Credit
					June	30	15%		900 00
					1917				
					June	30	15%		900 00

Form 62

In the course of two years the trucks have been depreciated at the rate of 15% a year and in a separate account, preferably on the page opposite so that one glance will bring all related information to hand, as in Form 62.

At the end of two years the trucks are carried at a cost of $6,000 less a reserve of $1,800—a net value of $4,200 or $2,100 each. But, instead of confusing all the entries in one account, we continue through future years to know our original costs—of great value in the event of fire or sale—and at the same time are conservatively providing for depreciation. At the end of two years we shall suppose that a chance is offered to sell one of the trucks; we have been in need of a larger truck and therefore take the opportunity. But the driver has been reckless and the truck sold has been abused so that the highest price obtainable is $1,500; the depreciation has been insufficient. The following entry is required; it is shown through the journal merely to display the proper credits and debits, but it can be made through the cash book or any one of a number of books (Form 63):

The posting of the entries will result in the ledger accounts, as shown in Forms 64 and 65.

Journal

Date 1917			Debit			Credit		
July	3	Reserve for Depreciation of Trucking Equipment		900	00			
		Surplus or Undivided Profit		600	00			
		Cash	1	500	00			
		Trucking Equipment				3	000	00
		(Sale of one of our trucks at a loss)						

Form 63

(Ledger) Trucking Equipment

Date 1915		Items	Fol.	Debit			Date 1917		Items	Fol.	Credit		
July	1	1 Motor Truck		3	000	00	July	3	Sold 1 Truck				
"	6	1 Motor Truck		3	000	00	"	31	Balance		3	000	00
				6	000	00					3	000	00
											6	000	00
1917 Aug.	1	Balance		3	000	00							

Form 64

(Ledger) Reserve for Depreciation of Trucking Equipment

Date 1917	Items	Fol.	Debit	Date 1916	Items	Fol.	Credit
July 3	Sale of Truck		900 00	June 30	15%		900 00
June 30	Balance		900 00	1917 June 30	15%		900 00
			1 800 00				1 800 00
				July 1	Balance		900 00

Form 65

The accounts now show one truck at cost and a reserve for one truck. The sum of $1,500 has also been added to the cash account and a loss of $600 deducted from the undivided profit or surplus.

It is not sound practice to appreciate as well as depreciate even though there be excellent ground for holding that land, buildings, and equipment are presently worth more than they cost. A realization that the realty is being carried too low is so often the contemporary of a bad loss which needs covering that the whole practice of appreciation is open to suspicion, and it is a poor policy to pursue unless such appreciation can be substantiated in fact by an independent appraisal.

It is commonly discovered in the records of most failing organizations that with each succeeding year of disaster, a substantial amount is tacked on to the value of the realty. There are many flagrant cases of this. I recall one in particular, where during three years immediately preceding a receivership the value of the land increased from $200,000 to $700,000, although no sale of land had been made in that vicinity during nearly 10 years!

Property rights, such as mines, lumber tracts, and the like, whether held on lease or in fee, depend for value, when held in fee, on the product remaining; and when leased, on the product remaining and the terms of the lease. Hence the book value should be depreciated or amortized in accordance with the production and the license stipulations.

Good will is so important and sometimes so baffling an asset that a chapter is later devoted to it alone.

Treasury Holdings. Capital stock becomes a "treasury holding" after it has been issued for value received such as cash, a physical asset, general services, good will, or any other

legal consideration, and is afterwards donated to the company, the grantor parting with every vestige of title. This stock is then technically known as "treasury stock" and may be disposed of as the company desires. If a company repurchases its own stock, this is also known as "treasury stock"—the operation being the same in theory as in the acquisition by gift; there is statutory limitation upon the purchase by a company of its own stock. Of course, stock that has been canceled is not a holding. Bonds are treasury holdings only while they are legal obligations to pay; canceled bonds are not obligations to pay and are not, when taken back, assets.

The company's securities placed in the treasury should be inventoried at par, except in the case of stock repurchased which is carried at the purchase price; not, however, at a figure exceeding its proportion of the company's net worth—it is not proper to take the market value which might have been paid if that market value be sentimental or founded on a speculative consideration. When preparing a statement of condition a list of all the stock or bonds which have been issued and returned to the treasury should supplement, as a supporting detail, the amount contained in the statement.

Securities Owned. The investments in outside securities are grouped under this head as distinguished from the preceding classification which includes only those of the company itself.

The securities may be of any nature other than current or demand loans, except in those corporations whose investments are regulated by law. If the number be large they should be set out in detail in a separate schedule. The securities in this section may be carried without relation to their par value, and it is recommended that two entries of valuation be made for each security: (1) book value and (2) market value. Then if the market value be less than the book value, a reserve may be set up aside to cover the difference, so that the temporarily false values of the books may not inflate the net worth. The presumption is that the company has bought or taken only good securities and the bookkeeping is done on that basis with the exceptions taken care of in the reserve.

Stocks are very seldom amortized except with the idea of bringing down an excessive premium that may have been paid, so that in the course of a few years the income derived from that stock is proportionate with the value carried on the books.

With bonds, however, the premium or discount is amortized for the period of years in which the bond or bonds have to run. For instance, a New York state 1912 50-year 4% Erie Canal bond sold at a premium, or at 106. Having paid a premium of $6, the actual income derived is not 4%, but a figure around 3.88%. Therefore, in computing the investment company's income, instead of getting 4% on the Canal bonds, their actual income is annually $3.88, because they have to consider the amortization of that premium for the balance of the life of the bond.

Sinking Funds. A sinking fund is a reserve fund set aside at stipulated periods toward the payment of funded indebtedness at its maturity or maturities, and the amount of the payments are calculated to exactly equal the maturity amount of the debt. It is well to provide sinking funds in all long-term financing. If the sinking fund be applied periodically to the purchase and cancelation of the bonds for which it was provided, thus reducing the actual bonded debt, then the amount of the bonds so retired should be deducted from the original sum of bonds issued which are being carried on the liability or credit side. Otherwise the bookkeeping is the same as that in "securities owned."

A sinking fund is generally placed with a trustee who issues a receipt to the company for all payments made to the account. It is especially important to watch for any negligence which might occur in not living up to the sinking fund agreements and not trust to posterity to meet the issue when it becomes due. Many mortgages include a default in a payment to the sinking fund in the same class with a default in interest.

The inventory was discussed at length in the previous chapter on "Balancing the Books." The methods of taking vary tremendously, dependent upon the nature of the inventory; the principal point is to obtain a correct account, not getting in more than actually exists, or leaving out anything which properly should be included. As an adjunct to the inventory there may go into this statement what is known as a consignment account. The consignment account represents material shipped out, not as sold, but to be sold by the person who receives it; he commonly has no obligation to pay until he has made a formal sale and the title to the goods remains in the sender until such sale and delivery have been made. Although the goods remain the property of the sender or consignor until sold, they are given a separate heading on the statement to distinguish them.

Current Assets. Cash includes cash in a bank or banks and the petty or other cash on hand. The balance as shown in bank is taken from the company's own books and checked up with the bank's figures. The bank balance will commonly be longer because of the checks which have not yet been presented for payment. From the standpoint of the draftsman of the statement, each check, when drawn, is considered as an instant deduction from the cash balance in the bank. No allowance is made for delays in collection in most cases, although a few concerns, whose checks are usually for large amounts, have bank arrangements to obtain daily all the canceled checks. They keep their own account and the bank account identical. The safe practice is to consider a check paid at the same moment it is drawn; this plan is practically accurate and not only saves clerical labor but may also save overdrafts and the habit of drawing checks ahead of the money to pay them with.

The Reasons for Petty Cash. Petty cash is in the hands of the cashier in order that he may make small disbursements without the necessity of running through a voucher in the ordinary course and possibly delay small, needed payments.

Very often his balance is only partly in cash and the balance is in memoranda or in receipts for postage, express charges, and the like. This condition should not exist at the time of closing the books; the charges should be sent through in order that they may be entered and the cash balance restored. In not a few companies, executives and employees are permitted to borrow from the cashier on I. O. U. Such a practice cannot be too strongly condemned; it encourages employees to spend in advance and therefore in excess of their incomes; when they really need money they can be better cared for out of a fund provided for the purpose.

The abuse of petty cash by executives is inexcusable; the money is given to the cashier for specific purposes and among them is not that of loaning to executives. I recall a case in the South in which the executives were in the habit of frequently taking from $5 to $10 from the cashier, sometimes giving a receipt and more often not; it was simply, "Give me $10 and charge it to my account."

In the course of time the cashier came under suspicion for other reasons and also at that time the officers discovered that they had drawn extraordinary amounts through petty cash. It

could not be proved that the cashier had taken the money, for none of the executives could go back through the long period covered and say with certainty whether he had or had not drawn that amount on that particular date. They all, however, imagined that they were swindled by the cashier; probably they were—but it was their own fault.

Personal business and company business should never be confused; personal accounts should never be paid by company check. If one cannot tend to his own affairs, he should take a clerk away from other work long enough to attend to it.

How Accounts Receivable Are Shown. Accounts receivable are shown only in the total amount. This total is substantiated by the individual detailed accounts expressing every transaction which affect the debit or credit of the controlling account. The total of these accounts must always agree with the total of the controlling account as shown in the general ledger and on this statement. The detail of the accounts should be attached to the statement in schedules with divisions according to their age—as 30, 60, or 90 days. If the number of accounts be very large, then of necessity only the summaries can be given, but these should be divided according to overdue dates, states, sections, or collection districts.

No active account should be more than 30 days old unless the nature of the business be such that the customer's as well as the company's financial stability permits a longer dating. Money tied up in long accounts does not give a business an opportunity constantly to turn over its capital and thus slows profits.

The average business man does not seem to realize that a large number of overdue accounts receivable are even less desirable than a large amount of possibly unsalable stock. If his establishment be cluttered with old stock, he is very apt to make some sort of a drive on its reduction, but more often than not, and simply through lack of a realization of their importance, he does not strive to turn that portion of his stock which is in the hands of his customers and is represented by the accounts receivable items, into cash.

If a schedule be prepared along the lines suggested, it will undoubtedly appear that certain accounts are of doubtful collectability. These should then be removed from the general accounts receivable and placed in a new account created to handle doubtful accounts.

Accounts Receivable in Suspense. Such accounts as require the company to take legal steps for their collection, or accounts which are doubtful in any way, should be so transferred. There should be no self-deception as between live accounts receivable and doubtful or bad accounts. If, at the end of the second year, any items in the suspended account have not been collected or settled, they should be taken out and charged directly to profit and loss unless a good reason to the contrary exists. The bookkeeping transfer of doubtful accounts should not be a sign to abandon collection or to give them up as eventual assets. They are transferred in the interest of accurate bookkeeping and the information such segregation provides.

Some companies, either through lack of sufficient capital or because of unusual conditions, may be called upon at a critical time to hypothecate certain of their accounts receivable. When accounts are thus hypothecated, they should be taken out of the general accounts receivable, set up separately and supported in detail by a schedule. A statement which includes accounts receivable without mention of their hypothecation is not an honest statement.

Notes Receivable. Notes receivable are promises to pay, by a creditor, either on demand or on a specified date, certain sums of money for which value has been received. A promissory note has no higher security—no better prospect of being paid—than the account for which it was given, but it is more convenient than an open account in the case of litigation, for then, instead of the creditor being required to prove that the money is due, he need only offer the note in evidence and all the burden of proving that it is not due shifts to the debtor. Banks will discount such notes where they would not handle the open accounts.

The general procedure, when notes are discounted, is to close out of notes receivable the items discounted. This does not recognize the legal liability of indorsers and is improper. The best practice is to open another account termed "notes receivable discounted" and credit the notes to that when the cash received is debited. The showing of only the net amount due to notes receivable is proper enough, but it should be specified, and preferably on the face of the statement of condition, that certain notes have been discounted. Notes received for merchandise accounts are so often unpaid that the contingent liability which arises from their discount should not be disregarded.

Acceptances have been previously touched on (pages 126 to 128). They should be carried in precisely the same manner as notes receivable, but under a separate head of "acceptances," for they are unquestionably of higher value than the ordinary notes.

Deferred Assets. The name explains the character of this asset—it matures in the future. A familiar instance is the mutual insurance policy; in such policies the contributions are made for periods of usually three years and are often substantial. At the end of the period the association figures out the amount of the losses, prorates the contributions, and returns the balance of the deposits.

It is seldom that less than 85% of the deposits is returned, and the contributing company can always count upon at least a portion of the deposit coming back; the portion which is likely to be returned is a deferred asset. If $10,000 has been deposited and the experience of former years has been that $8,500 will be returned, the contributor is safe in assuming that the next period will give the same return. The net cost for three years is thus $1,500; this is distributed at $500 a year and the balance of the deposit is entered as a deferred asset.

Of course, there is a liability to contribute beyond the original deposit, but that contingency is most remote and in any event the reader of the statement can take into mental account the possible liability. It is one thing to put a false asset into a statement and quite another to put in one which in human experience is a safe asset and which by the very form of its entry advises of its exact nature. Then, if one liked, one can disregard the asset in forming judgment upon the condition of the enterprise.

The cash surrender value of life insurance policies on which the premiums are paid by the company for its own benefit, as on the lives of certain officers, are sometimes classed as deferred assets, but I regard them as such only during the period at the beginning of the policy when it has no cash surrender value. Most policies stipulate that the cash surrender value will not come into being until after the second or third anniversary of the policy. The deferred asset is present, however, even if it cannot be obtained except by the payment of additional premiums.

Suppose the premiums are $400 a year and the cash surrender value after the third year is $1,000; say that two premiums

have been paid, that is $800; the cash surrender value can be obtained by the payment of another $400. The amount to be placed as an asset is therefore $600, being the $1,000 less the $400 necessary to obtain it. When the period of the policy has arrived that brings the cash surrender value into being, it is no longer a deferred asset but is practically cash, for it can be obtained at any time and usually without delay. I favor the inclusion of a distinct item between the "securities owned" and the "inventory" called "cash surrender value of insurance policies."

Prepaid Operating Expenses. Some operating charges must be paid in advance; it is not proper to put the burden of these expenses upon the period during which they were paid, since they are not expenses of that period, but were merely paid during that period. They should be distributed over the period which they benefit, and thus arises an asset for the unearned portion of the prepayment. Familiar cases are fire insurance and bank discounts.

Fire insurance premiums are assets for so much of the premium as has not been used at the time of taking the statement. The practice is to divide the premium by the number of months which it covers and carry the payment as an asset in the amount of the months yet to run. This value is taken because all statement of condition values are those of a going business, and such is the value of the asset to the going business. If the policy were actually canceled, the proportion of premiums returned by the company would not be the same as the statement value; for, in cancelation, the insurance companies apply the "short rate" which gives a smaller return than the calendar division of the policy.

Where interest is paid in advance, as on the discount of a note, the statement can take as an asset the proportion of the interest paid from the date of the statement to the maturity of the note.

Advances to agents are in part a prepaid operating charge but all advances should not be so entered pending the receipt of specific items from the agent. Much of the advance will undoubtedly go to selling expense in the final disposition, and, therefore, if the item be set up, there should also be a reserve in the amount of the portion of the advance which, at the date, will have been, in all likelihood, laid out for eventual expense charges. Otherwise much of the asset will be fictitious.

Few companies know how to charge their organization expenses. An attempt is often made to load them on the first year, but it is not right to mar the initial year with money outlays which are designed to benefit for all time. Part of the organization expense is prepaid operating cost and is to be apportioned over the years as such. The number of years through which the distribution is to be made depends upon the nature of the business; and much the same policy as is formulated in the subsequent chapter on the appraisal of good will is applied to distribution of organization charges.

Extensive plant reorganizations along lines of higher efficiency are to be treated on the same basis. No fixed rules can be given; the estimate should be the period over which the benefit is expected—within reasonable limits. When expenses are incurred incident to a bond issue, it is proper to spread them over the term of the bonds; if incident to a contract, over the term of the contract. In the ordinary trading or manufacturing company, the period will run anywhere from two to five years.

I distribute over five years in the case of a fruit preserving company, for the experience of similar companies has shown that the benefit would stand for at least that term. In the case of a manufacturer of automobile parts who spent more than $300,000 in rearrangements on an efficiency basis and thereby more than doubled the profits, the expense was apportioned through three years although all the changes were made in a single year and, during a part of that year, owing to the upset conditions, money was actually lost.

Other familiar prepaid operating expenses are taxes, prepaid advertising, and rent.

Capital Stock and Liabilities. The amount of capital stock is supposed to be the money representation of the fund which the company is using for the promotion of its business. It in a measure corresponds to the personal worth or credit of the individual, and it has been defined, as a matter of law, as a trust fund for the benefit of the creditors, that is to say, a creditor in dealing with a corporation is entitled to assume that its assets equal at least the face value of the capital stock, and that these assets will not be subject to more than the ordinary hazards of business.

The theory of capital stock becomes of practical importance in the statement of conditions, because it is from that statement

that dividends are declared. If the assets have been honestly valued and a surplus is available for distribution in the form of dividends, then a dividend may properly be declared; but if, under the head of assets, have been included doubtful items or items of speculation dependent for their value on the happy outcome of all activities, then it may easily occur that the supposed surplus does not exist and the dividend declared would therefore be drawn from the fund that represents the capital stock. This is what is known as paying dividends to the impairment of the capital fund, and such dividends may sometimes be recovered by creditors from the recipients, and also in a number of jurisdictions the declaration of such a dividend by the directors is a criminal offense.

Bonded Indebtedness. Under this head are included the liabilities which have been funded into more or less permanent form, such as in a plain mortgage or a trust mortgage securing an issue of bonds or short term notes (which are merely bonds running for a few years).

The bonded indebtedness and the capital stock sections of the credit side of the balance sheet virtually represent the fixed capital of the business. The capital varies only when the amount of the capital stock is reduced, or increased. The bonded indebtedness is generally for a term of years.

Current Liabilities. Current liabilities consist of accounts payable, notes payable, loans payable, and accruals, and are explained as follows:

Accounts payable are the accounts for which the company is liable; their total must always agree with the controlling account in the general ledger.

Notes payable (sometimes called "bills payable") are the instruments of indebtedness of a negotiable character given to creditors for their bills. The term "bills payable" is loosely used to include both notes to merchandise creditors and to banks for borrowed money, but that is only because the exact meaning of the term is seldom understood. Properly the heading should be restricted to notes given for outstanding bills.

Loans payable is the account in which is listed the money borrowed on notes. The distinction is convenient.

Accruals arise under the converse of the theory which gave "prepaid operating expenses." Here the concern has had the

benefit of something for which it has not paid because the payment is not yet due. A common example is the interest to be paid on the maturity of a note, mortgage interest (which is entered on the books as a monthly charge although seldom paid more than semiannually), and wages.

Wages is one of the most important of accruals, but is not often found on many otherwise careful statements. Suppose wages run from Monday to Saturday and are paid on Tuesday; the fiscal year ends on Wednesday. Then three days' wages have accrued and the liability should go on the statement.

Reserves. Assets other than cash will decrease in value; of course if one were to speak with exactness, cash also would be put in the class of fluctuating worth, for money is worth only what it will buy and hence is constantly changing. But I hardly imagine that even an economic fanatic would attempt to make up a statement of absolute values. I cannot imagine what medium it would be expressed in. For the decrease in value of assets we set up reserves to care for the possible and probable impairment. They can be considered a portion of the surplus, but it is better to consider them for their specific uses and to apportion them to the articles or classes to which they belong. The method was given earlier in this chapter. The owner or executive wants to know the net value of each article—its cost price less the depreciation for reserve.

The three figures are thus carried on the books of the company and often in the statement of operations (see the statement of operations on page 155), but the custom of bankers demands that reserves be segregated on the statement of condition. The statement of condition shown in the next chapter gives the method. The reserves should never be deducted from the items and only the net result shown, for in that case the original costs will be lost. (See the incident of motor trucks on page 160.)

Furthermore, reserves should not be credited directly to the capital accounts in the statements of condition because they are, at the best, only estimates; no matter how carefully made, they cannot be entirely accurate; the other figures on the statement are absolute—they represent facts and not estimates. If estimated figures were mixed with fact figures, the net worth of the company calculated from the figures would be but an estimate.

Therefore, segregate such figures as are based merely on judgment. Deductions from reserves should be made for the

period which is under consideration and should not be distributed; the deduction is to be made when it actually occurred as with the motor trucks (page 161). Other reserves, such as those for bad debts or contingent liabilities, are treated as being on the liability side of the balance sheet, for they represent an amount which has been set aside from the surplus to meet the conditions which will be deflected to these accounts at a later period.

Contingent Liabilities. The usual contingent liabilities lie in the indorsement of a company of either its own company's notes or of indorsed papers of subsidiary concerns. Additional contingent liabilities will include such claims or damage at law for incomplete contracts, guarantees, or agreements. Long-term contracts, either to buy or to sell, may be contingent liabilities.

Another form of contingent liability is that to the consignors of merchandise to the company for the purpose of future sales. This form of liability should always be the counter to the consignment account shown on the asset side of the balance sheet.

Surplus. The surplus is the balancing figure between the asset section and the capital and liability section. This surplus account is always treated in detail and substantiated in fact by the statement of operations which covers all of the operations which brought it into being. It is from the surplus that dividends are declared.

Net Worth. The net worth is ascertained by adding together the capital and surplus, or in the case of a partnership, the capital and the undivided profits. Or, to state the definition in another way, the net worth is the difference between the assets and the liabilities. It is also the book value of the corporation. The book value of the stock is ascertained by adding together the capital and surplus and dividing the total by the number of shares of stock issued.

CHAPTER XI

HOW BANKERS ANALYZE YOUR STATEMENT OF CONDITION

THE average business man does not seem to know the points of strength and the points of weakness in a statement of condition from the banker's point of view—otherwise so many statements would not be submitted which even at a cursory glance show a financial condition which could not sustain an advance on unsecured promissory notes.

The local bank with which the depositor has intimate personal dealings may be in a position to lend money to him without a real investigation of his financial affairs—may lend on the moral risk; but the metropolitan banker and more particularly the dealer in commercial paper must be, in a degree, impersonal and must depend for justification on a satisfactory statement of condition. In the case of the dealer in commercial paper this is particularly necessary, because he buys from the business man and he must in turn dispose of this paper to banking institutions which do not know the maker. Therefore, when he arrives at a conclusion respecting a statement, it has even greater weight than that of the bank officer, because on the reliability of the commercial man's judgment is based his only hope for profit and also his only hope of continued free dealing with the bankers who in turn buy the paper from him.

Two Surveys of Statements of Condition. The approach to a statement of condition by anyone who is about to discount paper is a very different approach from that of the investor. A company which might be in splendid condition for the floating of a mortgage bond issue, or even for the sale of stock, may be hopelessly bad from the strictly banking point of view.

The difference is this: The investor looks at a concern with the thought of whether or not he will eventually get his money back with interest. The taker of paper is not so much concerned

with the eventual capacity to liquidate above the amount of all debts as he is with the present capacity to meet the current liabilities as they mature. The investor will look to the plant, to the real estate, to the fundamental strength, and to the entire liquidating value.

But these sources of eventual strength are of comparatively little moment to the man who wants to know that the paper he discounts can be paid at its maturity. Hence he looks only at the quick assets and the current liabilities. If these are good he wants to know what is behind them; but if these are not good, the other matters are of comparatively little importance. The quick assets are the cash, the bills and accounts receivable, and the merchandise. The current liabilities are the notes and the accounts payable.

The exactly proper relation between the quick assets and the current liabilities depends upon the nature of the business; that is, the terms of its credit and the marketability of the merchandise. The ideal situation is when the cash on hand and the accounts and bills receivable will of themselves liquidate the notes and the accounts payable, leaving the merchandise on hand as additional collateral. This ideal is seldom realized and therefore the relation between the quick assets and the current liabilities is determined on the forced sale value of the assets.

In ordinary business it is calculated that the accounts receivable, bills receivable and the merchandise will bring one half their face value in liquidation; and therefore the broad rule is established that the quick assets should be double the current liabilities. This is not to be taken at all as a general rule. It has almost as many exceptions as it has applications.

For instance, in the case of a packer, the accounts receivable are nearly always worth their book value because the credits are very short, seldom extending beyond a week; and the stock on hand, consisting of meat products, is almost instantly salable. Groceries, hardware, and shoes, on the other hand, require fully a 2 to 1 ratio. Makers of stoves would require even a larger ratio, while textile mills do not require the full ratio because, in addition to their quick assets, a mill property is quickly salable—here the banker generally does look beyond the quick assets toward the fixed assets.

A General Rule. The broad rule for estimating any statement offered for the purpose of establishing a discount line is

this: Will the paper be self-liquidating? That is, are the quick assets of sufficient volume and in sufficient excess of the current liabilities to make certain the payment of the paper?

The fact that plant investments or other slow-moving assets, no matter what their intrinsic worth, are not taken largely into account by bankers, is often incomprehensible to the business man. The reason therefor has been explained. The banker must have self-liquidating paper. If the business man has assets which are not self-liquidating, he is in the wrong shop when he comes to the dealer in commercial paper. He should go to the investment banker who will arrange for financing on the basis of the actual investment as well as the profits.

Now as to the statement itself: It is required that the statement be of the end of the last fiscal year and it is highly desirable, and in some cases essential, that the statements for two or three years preceding be also furnished, because these permit the banker to discover whether the business is going backward or forward, and they also will promote inquiry by him if in any one year a single item seems out of proportion.

The Details of the Statement. Taking up the items on the statement itself and referring to the more or less standard form which is here given, let us examine the assets and their relations:

Cash on hand and in banks—There should be a reasonable bank deposit. If an applicant shows a net worth of $100,000 and has only $200 in the bank, it excites suspicion, especially if among the liabilities are a certain number of notes payable. A statement before me shows $464,000 in quick assets and bank loans of $100,000. The cash in the bank amounts only to $3,800. How did that man secure such a loan on such a small deposit?

Accounts receivable—Accounts receivable are divided into three sections: (1) the good accounts receivable, (2) those due from officers and the like, (3) those from subsidiary companies. The accounts receivable and also the bills receivable (which are taken up in the next section) due from officers, employees, or subsidiary companies, are at once to be stricken from consideration. They depend for their payment upon the successful prosecution of the business, and in the event of failure the subsidiary company accounts of bills will undoubtedly be uncollectable and probably the officers' and employees' accounts and bills will in all probability also be without value.

It is important to know if any of the accounts receivable are overdue or if any have been pledged. Those which are pledged are, of course, no longer assets at their face value. They must be deducted, while those that are overdue are of problematical value and may or may not be considered.

The terms of sale and the maximum and minimum periods of the year are to permit a comparison with the merchandise on hand. For instance, a concern doing an annual business of $900,000 a year has $600,000 in accounts receivable, and the terms of credit are 60 days. Therefore most of the accounts receivable above $150,000 must be overdue; the collection methods of the concern are bad. In this estimate, local conditions must always be taken into account. For instance, if the business sells in the South it will probably have to grant credit terms that will permit payment when the cotton comes into market and the great southern pay day arrives. Or it may be that trade customs make necessary the long datings. For instance, in quite a number of lines, goods sold in January must have May datings. All such matters should be explained by a note to the statement.

Bills receivable—The bills receivable item should receive a scrutiny with due regard to the nature and the customs of the business. It may be taken almost as a general rule that the ordinary house takes notes for accounts receivable only when the debtor is unable to pay the open account on the due date. Such bills are in more convenient shape than overdue accounts payable, but they have no greater validity. On the other hand, in not a few lines that have rather long datings it is the custom to give notes, and they are as promptly met at maturity as would be the best account receivable.

In bills receivable the matter of trade acceptances, which are coming more and more into vogue, should not be confused with the ordinary run of notes taken in the course of trade.

If any of these bills are overdue or if any have been renewed or extended, they should be disregarded in the estimate unless some very satisfactory explanation accompanies them.

It is also important under this head to know if there are outstanding any discounted bills receivable or any other liability arising from discount or rediscount, because here exists a contingent liability until the notes are actually paid, as was brought out most strikingly and most unfortunately in the failure of a very large dry goods house.

Merchandise—Under the head of merchandise the first point is to know how it is valued. It should always be valued at cost unless the cost be above market price. If the cost be above the market price, then it should be at market value. This rule is one of safety, and undoubtedly it is not always just, for in the case of certain raw materials, as pig iron, steel, and so forth, the value of that which was purchased before the war is doubled or tripled, and is almost as quick an asset as cash in the bank. However, if these items were constantly fluctuated with the market, the whole heading would have to be largely discounted; for, with its value changing from day to day, the inventory would have to be correspondingly shifted, with the result that, instead of a base asset, one would have a speculative asset.

Another point is that a book profit on merchandise on hand should not be taken until a sale has actually been made and the merchandise transformed into cash or an account receivable. Of course, any merchandise held under consignment, or under a trust receipt, does not belong to the maker of the statement and is to be disregarded.

The question of stock turnover—The stock on hand should not be so great as to prevent a reasonable annual turnover, and here a comparison is made with the amount of the gross sales and both the gross and the net profits. If the stock of goods is so large that a slow turnover is inevitable and the gross and net profits are both relatively small, it may usually be assumed that the methods might well be improved. And again it must be remembered that the inventory is generally taken at the lowest stock point of the year, and hence a very high total at that time shows particularly bad judgment. The exact amount of the turnover cannot be judged without a knowledge of the circumstances; if the transportation be slow, naturally the stock will have to be larger than with a house which is within easy reach of all markets. But that same out-of-the-way house should be able to show a sizable new profit—with a slow turnover it cannot attempt to do business on the same scale of profit per scale as the man who is able to turn quickly.

Real estate and buildings, machinery and fixtures—These items are of little interest to the dealer in commercial paper or to the discount bank except under peculiar circumstances. If they are obviously inadequate, the suspicion arises that perhaps the money borrowed is for capital purposes, instead of to meet current needs.

Just how much should go into plant and equipment is again a matter of cases, and again the plant is or is not considered in the current net worth value according to its salability. One manufacturer showed a very large real estate value in comparison with his other assets, but it appeared that he had just moved into a new factory and was still carrying his old plant as real estate; the old plant was on the market and would be disposed of as soon as the choice could be made between several offers—all of which were above the appraised value. In that case the surplus real estate was considered practically as a quick asset. But, generally speaking, plants and machinery have little value except to the going business, and the discount on their forced sale is enormous.

It is surprising how many manufacturers pour money into their plants without a thought of keeping the enterprise in balance. The real estate should be at its appraised value, and the machinery and fixtures at their purchased value, with a depreciation reserve set up against all of these items. Although the plant values have so little to do with the granting of credit lines, yet proper depreciation is a sort of assurance that the business man is not fooling himself on his statement.

Incidentally, it may be noted that the not infrequent habit of bolstering up the fixed assets by increasing the value of the real estate, and neglecting the depreciation element on machinery in order to give a better credit rating, are of but little help in borrowing money. The quick assets to control; indeed a swelling of the fixed assets may have quite the contrary effect from that intended, for the additions may throw the business entirely out of balance.

If the title to real estate is not directly in the corporation, the whole item must be disregarded. It is not uncommon to find the realty title in the name of an officer even where the company claims to have the sole beneficiary interest and puts the value on its statement.

Notes payable—Notes should not generally be given for merchandise unless under circumstances where no cash discounts are allowed; a large amount under this item is fatal, for it generally means that the great advantage of cash discounts is not taken. However, there are exceptions. I know one extraordinarily sound firm which has always given notes to one manufacturer. When pressed for a reason, they could not give one, but they emphatically said that they were going to continue the

practice—because "they had always dealt that way." The loans payable to the banks are evidences of credit, and are a good sign if the accounts payable are low—they are evidences that discounts are being regularly taken. The amounts, however, must be safely within reason or the ratio of assets and liabilities will not come out right.

Loans payable through brokers have a twofold interest for the dealer; first is the ascertainment of the outstanding liabilities and the second is more personal; no broker wants to be merely a part of a financing chain. The profit on the brokerage of paper is very small—only 0.25% of the face value, regardless of maturity—and the money is to be made by them only through regular customers. It costs not a little to investigate clients before accepting a line, and all that cost goes for nothing if the client is what is called a "shopper" who flits from broker to broker bargaining on rates.

In the end, too, it is bad for the business man; the banks like to see paper of one firm brought in only by one broker because they must trust largely to the statements of that broker, and they feel that several brokers will not have the same intimate touch as will a single broker who conducts all of the financing—therefore the paper is not always acceptable. Again, if the money market becomes tight, the broker will save his resources for the regular client whom he must satisfy, and will turn down the shopper.

If any part of the borrowing is on collateral, the banker is entitled to know how much and what collateral; he should know that there are no strings on the assets, and the same thought applies to borrowing by local branches. All borrowing should be by the home office, or it will not be able always to coordinate its finances.

Accounts payable—Since the house is presumed to discount, the accounts payable should be less than the bills payable. If they are high in proportion to the bills payable, and also in proportion to the merchandise and the other quick assets, probably the firm is cramped for capital. The terms of purchase must be here considered. But large accounts payable as compared with the merchandise on hand is not an infallible sign of weakness; take the firm which has the factory fill many of its orders directly to the customer. I recall one firm whose business consisted largely of such "drop orders," and, consequently, their accounts were out of all proportion to merchandise.

Considering the other liabilities together; a mortgage or a bond issue is not important (although a risk is always somewhat better without it) unless the principal or the interest falls due within the terms of the notes which are to be discounted. Then such payments must be regarded as current liabilities unless arrangements have already been made for refunding. Of course the amount of the mortgage is always deducted from the face value of the realty when considering that item alone. If the mortgages should also cover income and floating assets as well as fixed assets, that point must be taken into consideration. A few concerns take deposits from their employees or others; if these deposits are subject to withdrawal without notice or on short notice, they must be put into the current liability class.

The reserves are of importance dependent upon the form in which they are kept, but the undivided profits and the surplus are only evidences of prosperity—they have no loaning value, for they may be paid out overnight. Again there are exceptions; in some states taxation is avoided by keeping down the capitalization, and thus much is carried as surplus which is really capital. One striking case of this is a corporation which has a capital of $80,000 and a reserve of $1,000,000; but four men own all the capital stock and we have them indorse the notes in order that a hold may be had on the surplus—if it were distributed, these four men would have to get it.

The contingent liabilities are the indorsement of notes which have been above mentioned, or contracts of guaranty or suretyship; on all of these the possibility of loss is to be considered, and also the business judgment of imperiling the assets for other than absolutely necessary and profitable enterprises.

Competent Audit Adds Value. Of course a statement is much the better for having been audited by a competent accountant of established reputation; sometimes we have discovered that the account has been audited, but the applicant, for some reason best known to himself, answers "No." In that case a loan is never made—a man who is once caught telling an untruth about any statement matter is never a good risk, no matter what his apparent worth. The personnel of the auditors is important; they should be men of established integrity.

The questions outside the statement of condition are all for the general information of the banker to enable him to get the stage setting of the enterprise. Officers who have other and

prosperous commercial connections give a guaranty of sorts that the business under consideration is well managed. The community standing of officers and directors has a large share in determining the extra-statement reasons for credit. The purpose of the other questions on the statement is self-evident, and most of them have already been mentioned.

Thus far, only the statement proper has been considered, together with a few collateral questions. A dealer in commercial paper makes many more inquiries before he accepts a client; he writes to every bank in the vicinity, to other business houses in the vicinity, and in every way tries to discover as much purely personal information as is possible; for no one realizes better than the broker that if a man sets out to be dishonest he can undoubtedly fool, for a time, any banker or broker that ever lived. The personal equation is always a large one.

The nearer the statement approaches the ideal which has been outlined, the better the credit chances; and the farther it recedes from the standard, the less become the chances. And, in every case, the statement which speaks for itself is more acceptable than one which requires explanation.

CHAPTER XII

WHAT IS GOOD WILL REALLY WORTH?

GOOD will is an intangible asset—one cannot put his finger on a concrete object and say, "This is the good will." Because it is intangible and is to be judged only by the results which it brings about, it is not to be taken as a purely imaginary asset or one to be valued with the aid of the emotions rather than the intellect. It must be said that often the value put on good will is purely emotional—in it are contained the hopes of the future.

I have seen a company, nearly insolvent and doing little or no business, value its good will at $200,000; only a lack of familiarity with higher figures prevented a value reaching into the millions. It is because the figures so often put on good will are not the result of scientific calculation, and because the good will itself may be so easily damaged or destroyed that, as an asset, it is generally viewed with suspicion.

But good will is an asset; not seldom it is the largest asset —as in the case of some investment houses where the reputation for fair dealing in sound securities is worth more in the way of business through the year than are the total concrete assets. In the case of a professional man, good will is his only real asset, for it is his reputation for skilled service that brings him clients. A contractor's record for honest building is usually worth more to him than such of his assets as can quickly be converted.

Can Good Will Be Valued? The asset worth of good will can be arrived at with a very fair degree of certainty unless the good will be so intimately bound up with personal reputation that it becomes purely personal, and is thus not a matter which can be transferred to other hands.

What is good will? The best definition is that which has been placed upon it by the courts. In the case of Washburn vs. National Wall Paper Company in the United States Circuit Court of Appeals (81 Fed. Rep. 20), the court gave this definition:

When an individual or a firm or a corporation has gone on for an unbroken series of years conducting a particular business and has been scrupulous in fulfilling its obligations and careful to maintain the standard of the goods dealt in, and absolutely fair and honest in its business dealings, that customers of the concern were convinced that their experience in the future would be as satisfactory as in the past; while such customers' good report of their own experience tends continually to bring new customers to the concern, there has been produced an element of value quite as important—in some cases, perhaps far more important—than the plant or machinery with which the business is carried on. That it is property, is abundantly settled by the authority and indeed, is not disputed. That in some cases it may be very valuable property is manifest. The individual who has created it by years of hard work and fair business dealings usually experiences no difficulty in finding men willing to pay him for it if he be willing to sell it to them.

The courts in the United States have universally recognized that good will is an asset; the injunctions which have been issued, and the damages which have been assessed in the cases of unfair competition are founded on the doctrine of good will. For instance, a trade name (not a trademark) may have acquired a great value through long years of business; the courts protect that name from use by a competitor, terming such practice "unfair competition," because the competitor seeks to go forward by the theft of one of the assets of the original trader—of his good will.

Some of the cases have gone very far indeed, and a man has even been restrained from using his own name in trade when it was the same as that of a long-founded establishment which had acquired a peculiar trade value, and especially if the competitor were only a dummy set up by promoters to cut in on the old business. Trade names of articles, not protected by registration, have come under the same theory of protection. A leading case concerned the son of a great inventor; a group of promoters hired him to lend his name to a corporation. The court granted the inventor an injunction on the ground that the use of the family name by the son was only for the purpose of confusing the public between the two organizations.

How the Courts Protect Good Will. The courts rule approximately thus: If A has been established and the public buys A's article because of his name, then B, a later entrant into the trade, will be restrained from using a name so similar to that of A that the public may buy the B article under the impression that it is the A article. They say that in such case A's good will must be protected. Of course there are exceptions, and

each case is judged on its own merits, but the rule is more or less as stated.

The point is that the courts recognize that good will is a property right and entitled to protection; in one case a judge said that he thought the time would not be far distant when stealing good will would be regarded as a criminal offense, on a plane with the stealing of tangible property.

If good will is an asset because it produces business, then the measure of its value must be the business which it produces. How is this motive force to be calculated in accountancy?

The basis, as used by most of the accountants, is to set up the value of good will on so many years' average net profit earned by reason of the existence of good will; to find this profit it is necessary first to ascertain the average capital invested. A common error is to take only the profits for a number of years, find an average yearly profit, and then deduct the amount which the appraiser considers should be earned by a business in any event. The resulting figure is then called the annual profit due to good will.

This method does not recognize the profits derived from the capital already in the business; such profits should be estimated and deducted before any figure is reached which can properly be termed a value of the good will. All money is presumed to earn at least a banker's interest; the good will is the earning power over and above that figure.

It is easier to reason from a concrete example. Take the methods followed in the two cases here given. From these the following principles can be deduced:

Case number 1. (Form 66). The average capital invested was arrived at by averaging the total preferred capital stock outstanding for the periods that were reviewed.

Having secured this figure, interest was computed at 7% for two reasons:

1. It is stipulated in the certificate of incorporation that the preferred stock of the company shall bear 7%, and—

2. It is a fair return upon the investment in a private enterprise—always a somewhat hazardous venture for the investor.

In addition to the deduction for interest upon capital invested, is considered the compound interest upon the amount invested as good will. Inasmuch as the value of this intangible asset is

	Income from Operations			
6 months ended October 31, 1909		6	955	77
6 " " April 30, 1910		77	158	98
6 " " October 31, 1910		108	632	83
8 " " June 30, 1911		247	852	27
6 " " December 31, 1911		183	925	81
6 " " June 30, 1912		310	246	15
6 " " December 31, 1912		242	459	27
6 " " June 30, 1913		453	972	16
6 " " December 31, 1913		481	334	62
6 " " June 30, 1914		680	595	42
6 " " December 31, 1914		348	946	24
6 " " June 30, 1915		739	470	47
6 " " December 31, 1915		372	597	67
6 " " June 30, 1916		410	412	06
6 " " December 31, 1916		429	739	30
6 " " June 30, 1917		528	784	95
6 " " December 31, 1917		263	363	72
T O T A L S	5	886	447	69

Total Excess of Income over Costs for Eight Years and Eight Months

A v e r a g e Y e a r l y P r o f i t s
7% on ($392,820) Average Amount of Preferred Stock Issued and Outstanding

Capitalized at 10 Years
Less: Compound Interest at 7% on Profits Anticipated by Capitalizing

Value of Good Will January 1, 1918

VALUE OF GOOD WILL

Cost of Operations				Excess of Income over Cost				Capital Employed			
	2	068	79		4	886	98		50	000	00
	62	679	82		14	479	16		50	000	00
	77	423	38		31	209	45		50	000	00
	200	531	99		47	320	28		50	000	00
	158	517	00		25	408	81		85	000	00
	204	031	38		106	214	77		87	100	00
	162	765	20		79	694	07		90	600	00
	308	425	83		145	546	33		96	500	00
	380	419	07		100	915	55		100	000	00
	435	806	87		244	788	55		476	000	00
	279	013	60		69	932	64		414	000	00
	489	371	54		250	098	93		329	000	00
	338	840	79		33	756	88		289	000	00
	382	884	63		27	527	43		289	000	00
	409	856	12		19	883	18		274	000	00
	395	210	39		133	574	56		274	300	00
	302	869	65		39	505	93		400	000	00
4	590	716	05	1	295	731	64	3	404	500	00
1	295	731	64								
	149	507	52								
	27	497	40								
	122	010	12								
1	220	101	20								
	239	983	72								
	980	117	48								

FORM 66: A form such as shown on this and the opposite page aids materially in arriving at a correct appraisal of good will. The basis used by many accountants in arriving at these figures is to set up the value of good will on a certain number of years' average net profit. To find this profit, it is necessary to determine the average capital invested. All money is presumed to earn a banker's interest and good will is the earning power over and above this. Note that the six months ending December 31, 1917 shows the cost of operation in excess of the income.

something that will be realized upon in the future over a certain number of years, the fact is clearly presented that these earnings have been discounted or anticipated.

The profits have to materialize before the amount invested in good will is recovered, and the interest upon the anticipation of profits is thus a justified charge against the value of good will.

The final excess of income over cost of $1,295,731.64 extends over a period of eight years and eight months resulting in an average net profit of $149,507.52 per year.

The average capital invested was ascertained to be $392,820, upon which is the annual fixed interest charge of 7%, or $27,497.40. The interest on the borrowed capital of the company is disregarded.

The Life of Good Will. Before deducting the amount of compound interest due through anticipation of profits from the investment of good will, one must consider the number of years at which to capitalize this residue of earnings.

This period largely depends upon the character of the business. Authorities seem to concur that a professional business' good will does not extend beyond two years by reason of the element of personal touch that enters into all transactions and which will not continue unless the successor to the good will earns the same amount of approbation that his predecessor had, thereby creating a good will distinctly his own.

In a manufacturing or mercantile business the good will will probably extend over four or five years by reason of existing trade name, trademarks, and so forth. Newspapers and other semimonopolies can allowably stand a far higher number of years' capitalizing of net profits.

The test of the life of the good will in new hands is the opportunity which the business affords to the purchaser to create a good will of his own; if the transactions are frequent, the new personality will quickly replace the old; but, if infrequent, then it may be taken that the customers will be drawn to the old name over a long period of years. For instance, a trading concern will be likely to have at least several trades a year with an individual and he will soon become accustomed to the new management and trust to it and not the memory of his former treatment. But in another line, such as the contracting business, services will be rendered to the same people not commonly more than from once a year to once in 10 years, for the matters with

which a contractor deals are not of frequent occurrence in the ordinary customer's career.

Determining the Capitalization Value of Good Will. In the business which we are giving as an illustration, it seemed that it would reasonably take 10 years to create a new good will. Therefore we capitalized the value at $1,220,101.20 less the deduction of $239,983.72, which represents the compound interest at 7% upon the anticipated profits for 10 years, leaving a balance of $980,117.48 as the value of the good will.

Case number 2. This was a contracting firm. The further fact is brought into consideration that good will is generally acquired by the purchase from some individual of a business that has been built upon that individual's personal merit. Of course, there are exceptions, as in trademarks, and so forth. The purchaser of the business must then bear in mind that in acquiring the good will, a certain expense will be incurred to replace the service of the individual.

In the present case the final excess of receipts over costs was $226,026.95 during a period of 11 years and 4 months. Thus the average net profit was $19,943.55 per year. The capital consisted of $60,000, divided as follows: J. W. Smith, $20,000; B. F. Smith, $15,000; A. C. Smith, $12,500; F. C. Smith, $12,500.

The fixed interest charge upon this capital at 5% would amount to $3,000. The company had no bonded or floating indebtedness other than current and promptly paid bills. No further interest for capital borrowed or used need be considered.

We have next to consider the services rendered by the four individuals. J. W. Smith acted as an "outside" man. In short, he secured the business, and a man acting in that capacity is generally one of value. We estimated his services as worth $1,700 per year. B. F. Smith acted as bookkeeper. A bookkeeper sufficiently good to carry on the accounts of the company could be secured for $1,500.

A. C. Smith acted as superintendent of construction. As much of the value of the company insofar as reputation is concerned was without a doubt due to good work performed in the past, it would have required a good superintendent to have replaced the one whose services would be lost were the company and its entire good will to be sold. We therefore showed A. C. Smith's services as worth $3,700 a year.

F. C. Smith acted as an assistant in the office. An excellent assistant could be secured for $900 a year.

It may be remarked that the salaries of the solicitor and the superintendent are low, but we did not seek to replace those individuals with exceptionally qualified men. It was simply intended to quote the prices of an average man in such a position, as any ability over and above the average would in the future reflect itself in an excess of earnings.

A further fact to be taken into consideration is that a business which requires its proprietor or proprietors to expend in its management a considerable amount of time and skill is less valuable than one which will produce an equal income without such expenditure. It is less valuable because unquestionably it will be found that in the open market it would realize less money, but in addition to that it is important to remember that when a man purchases good will he pays for something which places him in the position of being able to earn more money than he would be able to earn by his own unaided exertions. In the above case, the cost of management was based upon a fair average cost for the replacing of the purely physical ability of the individuals concerned.

It is safe to take the life of the good will of a contractor at 10 years. Capitalizing for this period it becomes necessary to deduct the amount of combined interest necessary to pay the purchaser for the loss of interest upon the sum paid for good will, inasmuch as he is anticipating the expected net profit by paying in advance for the entire good will of the company. This amount at compounded interest is $55,479.21 as the value of the good will of the business.

Placing Good Will on the Statement. There is no proper objection to the appearance of the item good will upon a statement of condition if the item has been properly valued. Just the other day a great corporation added $2,000,000 to its statement under the head of good will, and the most conservative bankers and investors agreed that the new asset was fully worth that figure.

The company did not need the addition in order to make a good statement and it was not asking for more than its usual borrowings, but it stated that a trade name which it had adopted for its product and which had been extensively advertised, gave the company an excess earning power over that which

would commonly be earned on its capital in an amount which was conservatively represented by the addition of $2,000,000 to its assets. The company refined a standard commodity, which had never previously been sold as other than an ordinary commodity, added its own characteristic trade name and thus individualized the product.

Can a new company have a good will? In general it cannot because there exists no record of performance on which to value the good will. But there are exceptions; if the new company starts with a staff of tried salesmen from another company in the same line, those salesmen may have a personal good will which can be charged into the new concern; the exact value is very difficult indeed to appraise. If the salesmen have been given bonuses to come with the new enterprise, the amount thus paid might sometimes be taken as good will, but the exact make-up of the item should be set forth so that it cannot deceive.

Furthermore the value of any salesman over and above other salesmen may be capitalized in the same manner as with excess profits due to good will, being careful to deduct the amount which it is estimated that an ordinary salesman, without peculiar personal connections, might earn for the company.

If, however, the new company has purchased the good will of another business, then it is proper in the first year to charge this good will at the amount paid for it. After the first year, the actual figures of the earning power of the asset should be taken on the performance records and the purchase price discarded. A trademark may be valued in the general good will, although it is better accounting to set it up as a distinct asset; but a trade name is always part of the good will. The distinction is made because a trademark is a monopoly granted by the government while a trade name is a product of good will.

CHAPTER XIII

CHARGING OFF DEPRECIATION ON THE RIGHT BASIS

IN the chapter on "Balancing the Books" the correct method of taking an inventory was discussed, also the necessity for keeping the book value of stock at its actual value, or certainly at not more than its actual value. It was there seen that it became necessary at times to lower the inventory prices because the stock or a portion of it had become obsolete, or shop-worn, or was otherwise unsalable at its former value.

That process is sometimes termed "depreciating" the inventory, but although from the standpoint of correct English the term is entirely accurate, the word "depreciation" in accountancy has a technical meaning and is confined to the process by which the fixed assets are lowered in value so that their price on the books will always represent their operating worth. Stock is "reinventoried" instead of being "depreciated"; this is really a distinction with a difference.

Why Depreciate Equipment? Look at the reasons. The machinery and fixtures of any concern are the tools with which it does business; they do not go into the cycle of trade and are not offered for sale unless the concern goes into liquidation (barring, of course, the ordinary matter of replacing with a better article). Three methods of valuation may conceivably be used to estimate their value:

1. The cost of replacement value.
2. The operating worth—what they are worth to the going concern.
3. The forced sale or liquidation value.

The replacement value cannot be the true value to keep on the books, as it may vary with the market; at the time when this book is being written the prices of second-hand machinery are above those of new machinery three years ago. But we buy

machinery or buildings or fixtures for the purpose of doing business and not to resell; hence the market price, be it above or below the cost price, can have no effect on us, for the articles can be worth to us in an operating sense only what was paid for them less the toll taken by usage or the quick lessening in operating worth through the invention of better articles which will give cheaper manufacturing costs.

The same argument disposes of the third system of valuation —the forced sale value. In ordinary times and for most kinds of fixtures a forced sale will seldom bring more than 50% of the cost price. But a business is making ready to live and not to die; the value as a corpse is only for the auction. Plainly the true value of the fixed assets is what they are worth to the going concern and this value is termed the "operating worth."

The Operating Worth. The operating worth is had by the application of the process of depreciation and the consequent setting up of a reserve. The operating worth plus the reserve should always equal the original cost, which original cost includes that of installation as well as purchase price—for, to repeat, it is only the value to the going concern in which we are interested.

Since the proper rate of depreciation must depend upon the life of the article, determining that rate is an engineering and not an accounting affair. The accountant can take only the figures which are given to him and it is for the engineers to find the actual percentage which is to be deducted. All that the accountant can say is that there must be some figure for the inevitable impairment in value. This value cannot, of course, be determined by mere guess and neither can it ever exceed the price which was paid in the first instance. In very rare cases will the value, after years of use, be that of the original cost; but there can be such cases.

No Arbitrary Percentages. I have often been asked: "What is the conservative rule for depreciation?"

There is no rule; when you consider that the object of depreciation is to keep constant the relation between the inventory value of fixtures and the operating worth, it can readily be understood that an exact rule is impossible. The very statement of a rule is an absurdity, as the government soon discovered after they fixed 5% as a constant for depreciation charges in making up the corporation tax returns. They found that in some cases the rate was far too high and in others much too low.

Because depreciation cannot have rules, the percentage to be deducted is not for the accountant to determine, but, since the owner must often be both his own engineer and accountant, he should have a guide in making his balance sheet a true exhibition of the state of his business. Unless the balance sheet be true, the profits cannot be truly determined; too much or too little depreciation will result in equally false balance sheets.

Everyone agrees that it is good, conservative business to charge off depreciation, but right here all agreement stops. The average business man depreciates drastically in the good years and not at all in the bad years—he apologizes that things will about even up in the end; as a matter of fact he really depreciates according to the amount that he wants to have as surplus; and the determining factor in his rate of depreciation, or, in fact, in the existence of any depreciation, is the net income from operations. If he can make a good showing with depreciation, he depreciates; if not, he does not depreciate.

Emotional Depreciation. The real rate of depreciation is seldom of the slightest concern. Yet costs and profits are so intimately bound up with the worth of the plant and machinery that without an accurate worth being ascertained, the costs and the profits can only be approximated. Probably it is better to depreciate too much rather than not at all, but certainly there is no virtue in excessive writing off.

Take a case in point. A company manufacturing an automobile accessory made profits at the rate of 20% during the first three years of business; they wrote off 10% on machinery and the same amount on their patents. In the fourth year their patents were legally broken down and their earnings dropped to 5%. They stopped writing off and the next year they sold out. Of course there was a deal of haggling on the price, but finally they agreed to the inventory value as the selling price and a new company came in.

The purchasers had the whole plant reappraised and it was found that the three years of excessive depreciation had not been made up by the two years when nothing was charged off, and that the former stockholders had cheated themselves on the price. It is not often that machinery depreciates as much as 10% a year. On the other hand, insufficient depreciation will result in apparent profits which are too large and will also cost too much in taxes.

The Basis for Depreciation. Two grounds for depreciation exist—one through the wear and tear of usage and the other through the invention of better machinery, which renders the installed machines obsolete. The rate for the first kind is plainly to be determined on the life of the machine if it always be kept in good repair; hence the figures must be empirical. The obsolescence is to be determined only by comparison with the latest that is on the market.

Obsolescence. Take two extreme cases. There has been little advance in the machines for nut and rivet making through many years; such a machine will last fully 40 years if the parts are replaced and repairs are given earnest attention; in fact it is claimed that an older machine is better than a new one because it has been loosened up and so works more easily. Two per cent is a liberal depreciation. Concrete mixers, on the other hand, seldom outlast the contract, for the exposure, the rough usage and the loss of vital parts make it necessary often to abandon the machine at the end of the contract. Three to four years is a long life; hence the depreciation will go from 25% to 33%.

There is no obsolescence to be charged on the rivet machines and the life of the concrete mixer is so short that it would scarcely pay to bother replacing with a newer design unless it were revolutionary. But since obsolescence is a matter of comparison and not of reasoning, the charge may vary from zero to 100%. When a bottle machine was invented a few years ago with a capacity eight times that of the machines in use, it became necessary for every bottle maker to charge off his machines in their entirety. The same thing happened when the improved shoe machines came in. In both these cases the value of the older machinery was only that of scrap. But if the newer types are only slightly better than those already installed the percentage of depreciation for obsolescence becomes correspondingly small; if the new machines have an output 10% better than the old, then 10% should be taken off the inventoried machine and no further deduction made for this reason until another improvement be made. The point at which to stop depreciation for obsolescence is when the newer machines are so much more efficient than the old that good manufacturing demands a replacement; then the whole book value of the machine is automatically charged off. This is the only fair method.

Plant Ledgers. Every new plant should keep a plant ledger or machine depreciation record (a form of each of which is shown in Form 67 and Forms 68 and 69.) The principles of the forms are exactly alike and there is nothing to choose between them. Each article of machinery has its own card containing its own statistics; the value of the new machine is the purchase price plus the cost of installation. The cost of the machine as it first stands is the exact replacement value. The practice of charging machinery at the purchase price less the seller's profit is harking back to the idea that auction values are real values.

The expected life of the machine is then entered; the term of life will be calculated from past performance of similar machines. The figures will be compiled from the shop in the older factory and from the best information obtainable in the case of the new; the makers will usually be able to estimate the life with fair accuracy. Most lathes will give 25 years of service; the depreciation would therefore be 4%; a sandblast will commonly last 20 years, hence the figure here is 5%.

In the spaces provided, the amount of each year's depreciation is entered so that the card at all times gives the net worth of the machine to the concern. No figure for obsolescence is given, because it cannot be assumed that a better design will be available until it is actually known that such has been made. The obsolescence therefore will be determined annually or oftener by an examination of whatever is on the market and will, of course, vary for each article.

The repairs and maintenance charges are also entered on the cards and form performance records of great value in purchasing new machines and they also give timely warning when a machine is costing so much for repairs that it had better be scrapped.

Depreciating Old Installations. When the plant is old and no proper depreciation records have been kept, the best plan is to appraise the machinery *in toto* at its original cost and in this operation the original prices should be had together with costs of installation. If they cannot be had exactly from the records, then they should be estimated. The present values are reached by depreciating from the old values. In Forms 70 and 71, shown on Inserts VIII and IX, the manner of formally stating the values of older plants is given. When these values have been arrived at the plant ledger is started with the final figures obtained and additional data placed on the cards as desired.

SUMMARIZED STATEMENT

of the ESTIMATED REPRODUCTION COST and the APPRAISED OPERATING WORTH OF THE WORKS of the

_____ COMPANY

as of December 31, 19--

PLANT AND PROPERTY	I. BEAM HOUSE GROUP		II. TAN HOUSE		III. MAIN PLANT		IV. WAREHOUSE GROUP		TOTALS			
	Reproduction Cost	Operating Worth	Reproduction Cost	Operating Worth	Reproduction Cost	Operating Worth	Reproduction Cost	Operating Worth	Reproduction Cost	Operating Worth	Dep'n Charged Against Reproduction Cost	Average Percentage Dep'n
Real Estate	15 500 00	15 500 00	15 000 00	15 000 00	35 000 00	35 000 00	7 250 00	7 250 00	72 750 00	72 750 00		
Buildings	36 203 00	33 589 00	26 372 00	25 556 00	118 969 00	100 562 00	51 284 00	32 394 00	232 828 00	192 101 00	40 727 00	17%
TOTAL Real Estate and Buildings	51 703 00	49 089 00	41 372 00	40 556 00	153 969 00	135 562 00	58 534 00	39 644 00	305 578 00	264 851 00	40 727 00	13%
Building Equipments	3 170 00	2 985 00	3 254 00	3 151 00	15 479 00	12 480 00	3 210 00	2 187 00	25 113 00	20 803 00	4 310 00	17%
Machinery and Mechanical Equipments	8 960 00	7 852 00	25 380 00	22 498 00	82 625 00	63 210 00			116 965 00	93 560 00	23 405 00	20%
Power Generation and Transmission	3 395 00	3 110 00	9 163 00	8 344 00	47 190 00	37 196 00			59 748 00	48 650 00	11 098 00	20%
Factory Machinery Piping Systems	618 00	565 00	4 077 00	3 852 00	2 359 00	2 170 00			7 054 00	6 587 00	467 00	6%
General Operating Equipment and Tools	13 491 00	11 740 00	4 781 95	3 496 00	5 881 34	4 363 00			24 154 29	19 599 00	4 555 29	19%
Machine Spare and Repair Parts			3 790 30	3 254 00	3 345 50	3 052 00	1 985 00	1 107 00	9 120 80	7 413 00	1 707 80	19%
Office Furniture, Fixtures and Equipment					1 752 00	1 381 00			1 752 00	1 381 00	371 00	22%
Stable and Trucking Equipments							3 235 00	2 813 00	3 235 00	2 813 00	422 00	13%
TOTAL Equipments	29 634 00	26 252 00	50 446 25	44 595 00	158 631 84	123 852 00	8 430 00	6 107 00	247 142 09	200 806 00	46 336 09	19%
TOTAL PLANT AND PROPERTY	81 337 00	75 341 00	91 818 25	85 151 00	312 600 84	259 414 00	66 964 00	45 751 00	552 720 09	465 657 00	87 063 09	16%

--------N O T E S--------

REAL ESTATE: 2 3/5 acres in center of city in built-up workingmen's residential section three blocks from Public Square and Main Street. (Main business street).

BUILDINGS: Ground area - 2 1/3 acres
Floor area - 4 acres
Designed by architects; of heavy slow-burning mill type; of substantial construction and in first class condition.

EQUIPMENT: Works are thoroughly equipped throughout with most modern machinery and appliances. Equipment from 6 months to 10 years old. All maintained in first class operating condition.

CAPACITY OF WORKS: 1,500 to 1,800 dozen finished skins per 24 hours.

NUMBER OF EMPLOYEES: Average 875 running under ordinary full capacity.

AGE: Group 1. Built about 1 1/2 years ago, excepting part of liming and unhairing department, which is 4 years old.
Group 11. Built and finished 1 year ago.
Group 111. Ground floor about 10 years old; 2nd and 3rd floors on 11th Street and part of Poplar Street are 5 years old; 2nd and 3rd floors on 12th Street and part of Poplar Street are 1 1/2 years old.
Group 1V. Machine shop and Warehouses 18 to 20 years old. Stables 1 year old.

Department_____ **PLANT LEDGER** Classification_____

Unit Name_____

Year	Unit No.	Life	Voucher No.	Value	Annual Depreciation 1916	1917	1918	1919	1920	1921	1922	1923	1924	1925

Small tools such as reamers, drills, jigs, and the like, are not to be neglected in the plant ledger. Here the performance records of the purchasing department are of great value. The best practice is to charge the original purchases as plant additions and depreciate each article or kind of article at the rate ascertained from the records. New tools which merely replace the old are charged to expense, but new tools which are required in the making of new lines and which do not replace tools already in hand are added to the inventory as they are purchased.

The Depreciation of Buildings. Buildings, of course, depreciate, but the degree depends upon the material of construction, the attention to upkeep, and the climate. There is also a depreciation for obsolescence, but this is seldom taken into consideration and neither is the possibility of new railway connections on other sites, or like elements which undoubtedly serve to lessen value. Some buildings in New England have housed mills for 80 years or more and are still well suited to their purposes—so well suited that perhaps it would not be economy to abandon them for new structures. On the other hand, many companies do reach the point where they decide that conditions have so changed that it would pay to erect a new plant on a new site.

Life of Structural Types. A conservative architect has given the following life terms for these six types of standard construction:

1. Mill construction, brick-bearing walls, wood floors and roof construction: 40 years.
2. Steel cage, brick curtain walls, reenforced concrete floors: 30 years.
3. Brick-bearing walls, steel beams for floors and roofs, timber flooring and roofing: 25 years.
4. Reenforced concrete throughout: at least 40 years, and probably more.
5. All timber: 25 years.
6. One-story structure, steel or wood frame, galvanized covering: 5 to 10 years.

From these approximate terms, the annual depreciation may easily be calculated, but it will be accurate only if the repairs are diligently attended to and the climate is not too rigorous.

Details of Equipment Valuation of the Rivet and Burr and of the Tack and Nail Departments of the - - - - - - - - Company

May 27, 19__

(Machines are designated by number, as shown in last Appraisal in which detailed descriptions will be found.)

		Reproduction Values as per Last Appraisal	Depreciation Percentage and Sound Values as per Last Appraisal	Depreciation Percentage and Sound Values as of May 27, 19--
	TACK AND NAIL DEPARTMENT			
GROUP A	MACHINES (Including counter shafts)			
	No. 61 to 70 inclusive, 10 Wright iron tumbling barrels	$ 600 00	30% $ 420 00	
	71 Wright #6/D nail machines	403 00	28% 290 00	
	72 Wright #40/D nail machines	438 00	28% 315 36	
	73 Wright 44" squaring shear	395 00	30% 276 50	
	74 Wright power shear	70 00	30% 49 00	
	75 White speed lathe	74 00	30% 51 80	
	76 to 85 inclusive, 10 Wright automatic nail machines 5/8"	2 070 00	30% 1 499 00	
	86 to 95 inclusive, 10 Wright automatic nail machines - 1" cap	2 580 00	30% 1 806 00	
	96 Wright automatic nail machines - 2"	385 00	30% 269 50	
	97 Emery grinder	49 00	45% 26 95	
	98 Emery grinder	49 00	45% 26 95	
	99 Elevator (omit)			
		7 113 00	29% 4 981 06	10% 4 269 96
	New Nail machine			411 10
				4 681 10
GROUP B	FURNACES AND FORGES			
	E/#4 Hanson 20" forge	22 50	45% 12 38	10% 10 13
GROUP C	SHAFTING - (materials only; no instalation)			
	S.7 Main shaft 125'	199 61		
	S.8 Counter shaft of tumblers 76'	106 45		
		306 06	18½% 249 44	4% 237 20
GROUP D	PULLEYS - (materials only; no instalation)			
	On S.7 Twenty-seven (2 elevator pulleys omitted)	36 95	23½%	
	S.8 Thirteen pulleys	89 76	23½%	
		126 71	23½% 96 93	6% 89 33
	New on S.8 24" x 12 iron pulley			5 26
				94 59
GROUP E	BELTING			
	On S.7 Twenty-six belts (2 elevators omitted)	155 44		
	S.8 Twelve belts	69 62		
		225 06	35% 146 29	146 29
	New on S.8 to new nailer 20' - 6" single leather belt			9 80
				156 09
GROUP F	TOOLS			
	50 Cutters for nail machines	70 00		
	1 Scoop shovel	1 00		
	1 Johnson 4½" vise	6 00		
	1 Hanley 135 pound anvil	14 85		
	2 Knives for square shear	17 60		
	1 Clarke drill chuck	7 00		
		116 45	16½% 97 34	97 34
GROUP G	PUNCHES AND DIES			
	(none)			
GROUP H	DUST COLLECTOR SYSTEM			
	No. 60 Blower and piping complete at tumbling barrels	84 61	45% 46 54	10% 38 08
GROUP I	TANKS			
	1 30" x 60" x ¼" iron tank	27 00	5% 25 65	20% 20 25
GROUP J	TRUCKS			
	2 2-wheel box trucks, 14" x 18" wood platform	5 00	30% 3 50	
	1 12" nose, N.Y. pattern half iron truck	2 00	12½% 1 75	
	1 Wheel handy truck	2 25	40% 1 35	
		9 25	28% 6 60	40% 2 90

Real Estate. Real estate may depreciate and also it may appreciate, but it is not advisable to take either into consideration unless the changes are great, for the value to the going concern is, after all, only that which was laid out and, unlike a building or a machine, it will not be replaced unless the plant site be shifted.

Appreciation. Machinery and fixtures should never be appreciated; the maxim that profits are made through sales and not through book entries is sound. Reasoning by analogy, if machinery increases in value it should be carried at higher values, but the practical value to the going concern is not thereby increased, and it is only the going concern which we are treating. Hence, appreciating machinery is not on the same plane as depreciating; for, through wear and tear or obsolescence, the machine may be worth less than it cost, but it can never be worth more unless it be taken out of the shops and sold.

If realty values have increased and an outside appraisal clearly demonstrates the fact, the prices may be marked up, but it is better business not to do so; for here again profits will be declared out of unliquidated, estimated accretions, whereas a manufacturing enterprise is supposed to make its profits out of stock turned and not out of realty speculation. Marking up real estate is a little like counting chickens before they are hatched.

I have tried to make it clear that no fixed figures for depreciation should be adopted throughout any plant, but that each machine should present its own case and receive its own sentence. If for any reason the exact figures cannot be had, a fairly safe estimate is 2% on buildings, 5% on machinery, and 10% on small tools. But the best business man will not guess; he has the means at hand to know—and he will know.

CHAPTER XIV

WHAT YOUR STATEMENT OF OPERATION MEANS

THE statement of condition answered the question of the business man, "Where am I at?" The statement of operation is the reply to "How did I get there?" or to put it differently, "How did I make my profit?" or if the result be red instead of black, "Why did I lose my money?"

Of course the interest of the business man is in making a profit—unless profit be the ultimate end, the enterprise is not to be considered as a business—and it is in the statement of operation that we for the first time get down to the discussing of the "how" and the "why" of profits. Every preceding account has been provided with the view of giving a hold on the operations which go to the making of a profit, so that when we finally discover that we have made either a profit or a loss, we may trace back that profit or loss to its source.

The profit was shown in the statement of condition as "surplus." The statement of operation is a dissection of the surplus because the surplus was created by the operation of the business.

The statement of condition exhibited the profit only in bulk, and many business men—too many—are content to take the lump figure thus expressed without a thought as to where it had its genesis. Such men have no use for the statement of operation or for any other statement which is a record of that which is done and finished. To those who do not care, the statement of operation is recommended as a rough analysis which may counter disaster; to those who really want to know how and why they make money, it is commended as an introduction to the science of cost accounting.

The statement of operation is, strangely enough, unknown to most business men. Yet it is comparatively simple to make up from the records which every reasonably well-conducted business

should have, and its results may be far-reaching. But it is offered at the best only as a substitute for something better—an accurate cost system. The statement should be known and should be compiled, but it should be recognized only as a substitute for a cost system and never taken as a cost system in itself.

The Value of a Statement of Operation. As has been constantly reiterated, accounts make for profits only when they are used for comparative purposes. A single figure, standing alone, means little; but taken in connection with a previous record, it may mean a great deal.

Take the statement of condition on this basis. A surplus may show up this year which is very satisfactory in itself. But suppose that surplus is less than last year's? Will not an immediate inquiry be set on foot to learn why the surplus decreased? And will a diligent business man cease his inquiry until he has run down the exact cause of the decrease? The statement of condition merely announces the result; it does not tell why. Hence the statement of operation.

In its simplest form the result of operation is achieved by deducting the cost of goods sold from the total sales. These figures are gross and convey but little information. Therefore we must analyze; the division and subdivision may be carried on almost to infinity.

The limitations upon the elaboration of the process are practical. It is far better to devote the attention to a cost system that will advise of current doings rather than to delve too deeply into the past, however illuminating the information gained may be—if it be gained only by accountancy. If, however, the statement of operation is compiled by an industrial engineer or a cost accountant (or preferably by a combination) then not only will the diseases of the business be diagnosed as they appear, but also the remedies will be indicated.

There are two general forms of statements—elaborated according to the purpose for which they are to be used.

The first is for the banker. He is interested only in results; he does not care much how the profit was made so long as it was made. The figures which interest him are the amount of business done, the proportions for material and for labor, the selling expenses, the gross profits, and the dividends received or paid—so that he may compare the figures and the percentages with the records of other concerns in similar lines. He is interested in

depreciation and wants it separately only because he knows that the company which is shy on profits will not devote much attention to depreciation. He wants to know the detailed sources of income. For instance, a company which had assets totaling $400,000 showed a total income of $40,000; but, on analysis, it appeared that $37,500 of this sum was derived from stock owned in another company. The company making the statement was scarcely breaking even on its operations. It is important to know whether you are investing in the company before you, or in another company which you do not have the opportunity to examine.

The second form of statement is for the operator himself; he is equally interested with the banker in the results achieved; but, in addition, he must have the "hows." He asks for waste percentages, for proportions of non-productive to productive labor and the intimate details of manufacture.

The Derivation of the Statement. The operating statement defined in this chapter is made up from the ordinary books of record. After making up the trial balance (Chapter IX) we distributed the figures between asset and liability accounts and profit and loss accounts. Into the former went the accounts which represented those things that remained in the business either as assets or as liabilities; into the latter went the nominal accounts of historical importance. The statement of operation is founded on the profit and loss accounts. It is in columnar form in order that the total of the business may be shown. On it go all the figures of the trial balances which are not used in the statement of condition; the two statements are complementary. The form is a compromise one, because it was originated by accountants for the company which had not a cost system and it might be termed an accountant's cost sheet as distinguished from a cost accountant's sheet.

Forms of Statement. The Forms 72 and 73 shown on Insert X are interesting. The first is the ordinary form for a manufacturing enterprise and the second is for a concern which derives its income from other than trading, as a bank or a professional man.

Every time that a trial balance is taken off the books, a statement of operation should be made out. A daily statement would not give sufficient perspective to be worth while; once a month is usually often enough, but in addition to the regular periodical statements, others should be compiled whenever the

STATEMENT OF OPERATIONS FOR THE SIX MONTHS ENDED (OR, FOR THE PERIOD FROM_____TO_____)
(OR, FOR THE YEAR ENDED)

	$	$	$
GROSS SALES:			
(Classify source of income)			
TOTAL GROSS SALES			
Deduct:			
(All allowances for returns, freight, trade discount, and so forth.)			
NET SALES			
COST OF GOODS SOLD:			
Inventory beginning of period			
Purchases during period			
Productive labor			
Manufacturing expenses, (including unproductive factory wages. Classify into insurance, rent, taxes, repairs and renewals, power and so forth, but exclude reserves for depreciation.)			
TOTAL INVENTORY beginning of periods and additions			
Deduct:			
Inventory end of period			
TOTAL COST OF GOODS SOLD			
MANUFACTURING PROFIT			
ADMINISTRATIVE AND SELLING EXPENSE: (Separate when possible. Selling expense includes shipping material and salaries.)			
Administrative (List)			
Selling (List)			
Total Administrative and Selling Expense			
NET PROFIT FROM MANUFACTURE			
OTHER INCOME: (Classify miscellaneous income, such as dividends received on securities owned, discount taken on purchases and so forth.)			
TOTAL OTHER INCOME			
Carried forward			

	$	$	$
Brought forward			
OTHER DEDUCTIONS: (List interest of every description cash discount allowed customers and bad debts to be charged off.)			
TOTAL OTHER DEDUCTIONS			
NET PROFIT FROM OPERATIONS			
RESERVES: (Classify reserves to provide for impairment in the value of assets.)			
TOTAL RESERVES			
DIVIDENDS: (Deduct only those declared during the period based upon profits of period.)			
Balance end of period, transferred to surplus			
SURPLUS:			
Beginning of period			
Add: Adjustments applicable to preceding period			
Deduct; Adjustments applicable to preceding period			
Adjusted Surplus			
DIVIDENDS: (Deduct those declared upon profit of preceding period.)			
SURPLUS END OF PERIOD			

NOTE: The above outline is for use in manufacturing companies. If used for a jobbing business, the manufacturing costs will be eliminated. In partnership, the division of profit should replace the dividends.

INCOME AND PROFIT AND LOSS ACCOUNT (EXCLUSIVE OF DEFERRED AND ACCRUED ITEMS) FOR THE PERIOD FROM_____TO_____)
(SEE ALTERNATIVES AND COMMERCIAL FORM)

	$	$	$
INCOME:			
Interest received: (Classify when possible)			
Total Income			
DEDUCTIONS:			
Interest paid (Classify when possible)			
Total Interest Paid			
INCOME FOR THE PERIOD BEFORE DEDUCTING EXPENSES			
EXPENSES AND GENERAL CHARGES:			
(Classify)			
Total Expenses and General Charges			
NET INCOME FOR THE PERIOD			
BALANCE OF UNDIVIDED PROFITS AT THE BEGINNING OF PERIOD			
Add:			
Adjustment items applicable to previous period			
Deduct:			
Adjustment items applicable to previous period			
ADJUSTED BALANCE BEGINNING OF PERIOD			
BALANCE END OF PERIOD BEFORE DEDUCTING DIVIDENDS			
DIVIDENDS PAID DURING PERIOD			
UNDIVIDED PROFITS			

FORMS 72 and 73: Every time a trial balance is taken off the books, a statement of operations should be made out. Here are excellent examples of the forms they should be made out on. The form to the reader's left is for a manufacturing enterprise while the other form is for a concern that de ives its income from other than trading, such as a bank or a professional man. It will of course be understood that wherever necessary the form may be varied to meet the special needs of individual concerns.

business seems to need intensive attention. An owner or an executive should constantly have his finger on the pulse of the business.

I shall take up the items individually as they appear on the model form shown:

Gross Sales. The statement of operation begins at the sales. The sales are classified first as to gross, and all forms of direct sales of products are included in this classification.

In certain lines of business which, properly speaking, do not have "sales," the item is generally termed gross income or gross revenue. Thus a contracting firm considers the income from profits on their contracts. On the other hand, a bank's is derived from interest upon money loaned or commissions upon funds handled, and only slightly, as in syndicate and like operations, from buying and selling.

In any event, the statement begins with the gross sum derived from the particular operations in hand.

Deductions. From the gross sales there may be certain deductions and allowances. The common deductions are allowances for returns, freight outward, and trade discount.

Allowances are any remitting by the seller to the buyer of a portion of the purchase price; thus where the goods are damaged in transit or become defective while in transit, or are of bad workmanship in part or in whole, or if, for any reason, the shipment is not up to standard, but is yet acceptable to the consignee at a price, the seller may make a special allowance to the purchaser. The bookkeeping procedure is to charge an account called sales allowances and credit the account of the purchaser with the amount of the allowance. Naturally the allowances which accumulate throughout the course of the year are to be deducted from the total gross sales.

Return sales—Here the purchaser has actually returned the goods as unsatisfactory or as no longer desired. The goods returned are charged to an account called "sales returned" or "sales returns," and the account of the purchaser is closed as the opposing credit.

Freight outward may be a proper deduction from sales for the reason that when goods are sold f. o. b. at a certain destination the cost of that freight has been included in the selling price and therefore, when such is the case, the actual freight charges should be deducted therefrom.

But I prefer to consider prepaid freight as a selling expense in most cases. It is the salesman and not the factory which determines how much freight is to be paid—for it is the salesman who finds the market. A factory should not be charged with an expense over which it has no possible means of control. The practice of charging all freight outward into the goods is misleading; as was pointed out in Chapter II, it often happens that the sales department goes too far afield for its customers and may sell in districts where the mere freight charges will absorb the whole profit.

It is well to sell f. o. b. the factory if the trade can be brought around—as in automobiles. But trade customs are hard to change, and where it has been the habit of the manufacturer to pay freight, he cannot discontinue the payments without the cooperation of other manufacturers in the same line. Few consumers will readily see that it is of advantage to pay only their own freight charges instead of also paying a share of the other fellow's through the addition which is necessarily distributed over all the goods.

Trade discount is a discount which is taken off of the list price. It has previously been discussed (see page 108). The discounts classified as trade discounts are given purely with the idea of getting business as distinguished from cash discounts which are to encourage quick payments. There is no real business reason for an elaborate system of discount without regard to the buyer, but the adherence or non-adherence to the system is a matter of individual discretion. Some of the larger firms whose positions are impregnable have totally abolished trade discounts and quote flat prices, but other equally large firms adhere to the discount. There is no rule.

Although trade discounts appear on the invoices, only the net amounts are carried on the books. The fiction should not be persisted in at home.

After having collated the items and arrived at the total amount of deductions, the total is subtracted from the total gross sales; the difference is the net sales.

Cost of Goods Sold. The cost of the goods which have been sold is computed from the moment that the product enters until it is finished and ready for shipment. This includes all materials and supplies and all manufacturing and all necessary converting and hauling expenses.

The best way to arrive at this cost is through a cost system. If we have the cost of each kind or type of article sold, it is only necessary to multiply the unit cost by the number sold, to gain the total cost. But failing a cost system, we must work backward, as explained in Chapter IX, and by an inventory discover what we have in hand. Therefore, in stating our operations, we start with the inventory of the beginning of the period and add the various items of productive labor and so on, as shown on the sheet, and from the total we deduct the inventory of the end of the period to find the total cost of all that has been sold. Having no cost accounting, the whole process is crude, and if the inventory be inaccurate, the resulting figures will all be inaccurate.

There are two principal divisions of labor, namely, productive and non-productive. Productive labor is that labor which is actually and directly put upon some part of the product. Non-productive labor is that which cannot be directly charged to any specific product. (This subject will have a fuller treatment in the chapter on cost accounting.)

Without a cost system, it is difficult if not impossible to apportion unproductive or indirect factory labor (for it is not unproductive in the narrow sense) and therefore the whole item is dumped into the most dangerous of all manufacturing accounts —"manufacturing expense" or "manufacturing overhead."

Manufacturing Expense. In addition to the unproductive factory labor this inclusive item takes in many other factory charges, a few of which can, but more of them cannot be apportioned without a cost system. Among the items are factory supplies, factory expense, rent, insurance, repairs and renewals to plant and equipment, heat and light and power, taxes, and depreciation of plant and equipment.

Factory supplies are those small purchases which are made for the purpose of carrying on production and, where their sum is not considerable, are charged off immediately. Where the supplies total a fair annual amount, an inventory of them should be maintained in the same fashion as with the general stock. As the supplies are used on requisitions, the inventory account is credited and the cost is transferred to a factory expense account. Supplies are seldom so slight that they can be disregarded.

Factory expense represents these expenses which are so trivial in amount as to make it ridiculous to attempt an inven-

tory. Where a cost system rules, these small expenditures are governed and directed by the comparisons in the "expense analysis." (See page 249.)

Insurance is the amount of premium paid on the factory plant and equipment as well as on the materials and supplies, goods in process, and finished goods.

Rent is a debatable item when it represents a charge for occupancy of buildings owned by the operating company. Many accountants consider such rent as an income on capital on one hand, and a manufacturing expense on the other. They reason that a man who pays rent disburses a form of interest for the lack of enough capital to own his own building. If he were to borrow money and build, he would pay interest instead of rent; that interest cost would not be considered as a manufacturing expense, but as a capital charge. Therefore they apply the same reason, that because of this insufficient capital he must pay interest in one form or another, which in this case is termed rent.

I prefer to consider rent as a manufacturing charge because it can thus most easily be charged. Certainly no one can manufacture without premises on which to conduct the operations; if rent be paid, charge it as such and against manufacturing. If, on the contrary, interest be paid, that interest will later get into the cost when the overhead is distributed. The matter of charging interest on the investment is on a somewhat different footing and is taken up under costs (page 242). A safe rule in accounting and one which at the same time is quite evident, is to follow common sense in making charges, put them where they obviously belong, and leave the discussion of economic refinements to those who delight in them.

Taxes involve much the same theories as rent. They are urged as a capital charge on the basis that taxes are indirect charges by the government upon the use of wealth. A tax on property is levied on the assessed value of the fund invested. Thus accountants maintain that taxes should be a capital or income charge rather than a cost of manufacture. But even though the items of rent and taxes may properly be classed as capital charges, they should be considered in the cost of goods sold. The capital is invested in the plant, buildings and equipment, and if not invested, a rent is paid and the charge, either in the form of rent or taxes is a charge on the capital which is used to earn profits.

Repairs and renewals are the sums expended in the repair of broken machinery and equipment or the substitution of new parts to preserve the level of efficiency of production. The charges apply only to the actual cost of repairs and replacements in the course of production. Therefore they are properly classified under manufacturing costs.

Heat, light, and power, which are three distinct items in the cost of manufacture, are considered as one account, except when a cost system is in force. We charge here the power house labor, the coal, oil, supplies, and so on, and consider all of them merely as materials. Under a cost system they are distributed into the goods.

Depreciation. It cannot be denied that machinery and equipment lessen in value through wear and tear. (See Chapter XIII for methods of depreciation.) Therefore, if materials, labor, and the like are considered as a manufacturing expense, ought not the amount of machine value thus used also be included? Or is the charge against capital and ought it not go into the goods eventually through the overhead? Does it belong directly in the cost of goods sold?

The theory which considers depreciation as a capital charge is sound. Whatever amount truly represents a waste or leakage of capital, which is not traceable except through the cost of manufacture, is a capital charge. With a cost system we can take depreciation directly into account as a manufacturing cost, but for the present purpose of determining the actual manufacturing profits, without cost figures, depreciation should be considered only as a capital charge—as a wasting of capital.

Manufacturing Profit. Adding the inventory at the beginning of the period, the purchases, the labor, and the manufacturing expense, we reach a total from which should be deducted the inventory at the closing of the period. The result is the cost of goods sold. This cost of goods sold is in turn deducted from the net sales and the balance remaining is considered the manufacturing profit.

Many of the foregoing items would not be involved in other than manufacturing, but the general process is applicable to any business. The thought is merely to find the gross income, make the deductions of the particular case to find the net income, and from that to deduct the cost of rendering the goods salable. In a trading business, instead of the many items of labor and

manufacturing expense, we should have the large but easily comprehended item of the cost of the goods purchased. There would be no productive labor or any items of actual fabricating expense. The big expense would be the administrative and selling expense.

Administrative and Selling Expense. Administration expense is self-evident—the salaries of the executives, their employees, and all of that which is expended on the business as a whole and as distinguished from the selling end.

Selling expense includes the cost of shipping material and the expenses of the shipping department. The biggest and most important items are those of salaries of salesmen and their selling and traveling expenses. Then there is advertising and the thousand and one other charges which it is not necessary to detail here. If the concern has branch sales offices, there must also be added the salaries of managers, salesmen, clerks, rent, miscellaneous sales room supplies, and all other expenses pertaining to the branches. Selling expense was discussed in a previous chapter on sales.

The analysis of administrative and selling expense is dependent entirely upon the size and conduct of the business.

The total of these expenses is deducted from the manufacturing profit, and the result is a net profit from manufacture, commonly called net income from operation. This figure represents the actual profits derived from the conduct of the business. To it should be added any income not arising as a part of the general business operations.

Other Income. The component parts here may be miscellaneous income, dividends received on stocks owned, interest received on bonds or mortgages owned, or discount taken on purchases, and so forth.

Dividends received on stocks owned are those dividends which come as a return on capital invested in some other business. Likewise interest on bonds or other securities owned, such as mortgages, notes receivable, and the like.

Cash discount on purchases is a profit gained by paying bills before they fall due. It is to be distinguished from trade discount, as it is a capital transaction, while trade discounts are allowed with the idea of influencing business and are therefore part of the business operation. Had a company insufficient capital, they could not take advantage of the discounts.

Other Deductions. From the total "other income" is to be deducted such items as cash discount allowed to customers, interest on notes payable or mortgages payable, and any other subtractions of like nature. Cash discount on sales is the reverse of cash discount on purchases; in the one you give and in the other you take.

Interest paid on notes payable or mortgages payable is a proper income deduction because it is a charge for capital loaned to the business.

Losses on sales and securities or even in the sale of part of the company's assets is a proper deduction at this point.

The income deductions, subtracted from the total income, give a "net profit from operations." This net profit distinctly differs from net income; net income is received from the operation of the business, whereas net profit represents the actual profits derived from operation—the gain of the enterprise.

Further deductions are reserves, which may be set up against losses, bad accounts, or other contingencies.

Dividends declared, when not immediately paid, are reflected in the balance sheet as a liability and should be a deduction on the net profits only when they apply to the profits of the period under consideration. If the dividends are declared upon the profits of a preceding period, they should be declared directly out of the surplus—they should never be considered as a part of the period's operations, especially in the sense of an expense. I recall a bookkeeper who, before closing the books, always held the dividends paid or declared as an expense of that particular period, made a deduction therefor, and considered his final balance as the profit or loss for the period. It is absurd to so confuse profits and expenses.

The figure which results after all the deductions have been made as above outlined is the "surplus," and its amount must agree with the surplus found through the statement of condition —for, to repeat, the statement of operation is only the analysis of the surplus.

The statement of operation is useful; the man who forms one is so much the better off for the knowledge that he has gained; but to my mind a statement formed from the books, such as has been described, fails in its purpose if it does not direct the business man's attention to the imperative necessity of instituting some opposite cost system.

CHAPTER XV

WHAT A COST SYSTEM MEANS TO YOUR BUSINESS

WHAT are my profits? How much do I really make on my sales? Did I make or lose money on that job? Probably no man in business would object to having his records answer these questions. Yet how many records do give answers? Will not the average proprietor of a business pursue relentlessly the debtor who owes a dollar and utterly ignore the dollar which passes out as preventable waste? Will he not go to any end to have an error in one of his bills corrected and yet bid upon a contract on figures which are really little better than cost guesses? Why is it that machinery for finding the actual costs of doing business is so rare?

I think that it is because most men in business imagine that cost finding is mysterious, and cumbersome, and involves so much work that it is not worth while.

No business today can be permanently successful without an accurate cost system. It is quite as essential to know what has gone into your product as to know what has gone out to your customers. You must know whether or not competition can be or should be met, whether you can do business at the other man's prices—he may be selling so ruinously low that it will be good policy to let him break himself rather than try to meet him and break yourself. We have passed the day of unintelligent manufacturing and merchandising, and those who do not realize the change will come to their senses in the bankruptcy court.

What Is Cost Accountancy? Cost accountancy is the science of discovering the exact cost of doing business—of all that which enters into a product, of all that which must be added to the purchased article to find the point where profit begins. Accountancy proper is a book record—a recording and correlating of accomplished facts. Cost accountancy is a process record—a recording and correlating of the prices of activity.

The finding of the cost of doing business is the really important portion of the accounting of any enterprise, for only from exact costs may future policies intelligently be planned.

In the preceding chapter it was seen that the statement of operation told something of costs. In fact, it gave an exact guide to total cost in certain branches during the period covered by it. A man might know, with a fair degree of accuracy, how much it cost him to do business in the previous year, but he could not know exactly the current costs of the present year.

It is the present year with which we are concerned in business. That which is past is useful only for comparison and perspective. That which is to come is a matter for planning. You make money on what you do today. The only way to discover what you are doing today is through a cost system.

Why Exact Costs Are Needed. The proper cost system is not merely a revelation of profits from day to day. Anyone who uses it only to ascertain profits, is getting but a fraction of the real return. Cost is at the bottom of every industrial improvement. The revelation of cost is a guide to better as well as to more profitable business—a guide to better selling or to better manufacturing. The real cost accounting will show where are the weak spots and therefore where betterments may be made.

Costs are not merely for the manufacturer—as is too often supposed. He has his cost problems and they are peculiar—in some cases intricate—but so also has the retail dealer and the professional man; in fact, every person who engages in a gainful occupation must know how and why a gain is had. Conversely, if the enterprise which was supposed to result in a gain, unfortunately results in a loss, the loss must be localized in order that some corrective measures may be employed. It cannot be localized unless by a cost accounting system which shows up in detail the weakness and the strength.

Cost figures in any single year are of only partial value. They show what is happening; but, in order to be most useful, these figures should be brought into comparison with those of other periods. In costs, as with practically every other business operation, it is the relations which teach and not the isolated accounts. The cost system need not be elaborate.

Good Systems Are Not Complicated. The idea is current that the obtaining of cost is a difficult and hazardous affair with the result at the best a gamble. There is the classical

instance of the company which installed, at enormous outlay and under most expert guidance, a plan by which every item of expense was recorded and distributed. This company had been prosperous. It began to decline; finally it reached the point where the stockholders demanded executive changes. The new officers, as a first step, threw out the elaborate series of reports and tabulations together with the 40 or more clerks who had been compiling them; they brought in a simplified system adapted to the needs of the company. Then it was discovered that the company had been making money from manufacture, but the cost system had been so ill-conceived and so complex that profits had been absorbed in their recording.

This illustration gives an excellent type of everything that a cost system should not be and it conveys a warning of the dangers which may be encountered. A system is not to be judged by its elaboration. Any system is good which gives the essential facts with a minimum of labor, and conversely, any system is bad which gives the facts with an undue amount of labor.

No One System. I have spoken of a cost system. There is no "system." There are no two factories, there are no two stores, in which exactly the same cost methods can profitably be used. A system is more or less like a garment. You may buy it ready made and possibly with some alterations it may fit you if you have a moderately standard figure; but if you have a peculiar figure, no amount of pulling and cutting will produce a suit that will convey the impression that the maker had even heard of you, much less measured you.

Further, the cost garment must not only fit the figure of the wearer, but it must suit his coloring and (insofar as his tastes are reasonable) his tastes. To this extent I agree with the familiar plaint: "Yes, that is a good scheme, but it would not do in my business; my business is peculiar."

Each business has its individual characteristics; there may be greater differences between two factories producing men's hosiery than between one which makes pins and another which constructs battleships.

From that which I have said it might be taken that I am bent on discouraging the adoption of cost systems. I am intent on discouraging the installation of any cost system which is not suitable to the business, for I know absolutely that disorder will follow. This statement is based on extended experience.

But if costing procedure must be adjusted with such delicacy, is it worth while to venture the operation? And can methods be found which will fit "my business"?

The Right System Can Be Had. Every concern, however extraordinary its dealings, can and should have a method of accurately finding costs. There is always some way of finding exact, or practically exact costs, and that way need not be unduly expensive or bothersome. Perhaps slight changes will be necessary in the conduct of affairs, but these will be changes for the better and which should have been made in any event. The expense will never be material unless the method adopted is too elaborate and seeks to trail every fraction of a penny to its lair.

In a small business the work of cost accounting can easily be added to the duties of the present office force, although it would be better to rearrange their work so that one clerk exclusively handles the cost; a business must be very large indeed to require the services of more than a couple of clerks in the cost department. And if the volume is so great as to entail a considerable increase in the clerical force, then the savings will be correspondingly great.

Once an executive decides to adopt cost finding, he should proceed cautiously both in the selection of the system and in its installation. And on these important points no exact and scientific rule can be given. The very nature of the subject matter precludes rules; the guide must be common sense. As was said of accountancy proper, an unwelcome or misunderstood change in methods cannot be successful; the man who "installs" a new system, complete and far-reaching, will shortly join those who think that cost finding is impossible. The human factor must be ever in mind in business changes, unless the breaking up of the organization is of no moment.

If the system gives the true results, it is right; if it gives untrue results, it is wrong. The whole matter is empirical; one must select the elements which seem to suit the case. If they do not suit, then a change should be made and after that another change—until something which does the work well is obtained. When that which seems right has been found, it should be carefully watched to see that it stays right.

Costs As an Aid to Business. Cost accounting, as all accounting, is to be considered as an aid to better business and

not as a business in itself. Accurate tabulated costs will point the way to improvement, but they will not make the improvement. They are not an end—merely a means to an end. This seems ridiculously trite, but I have found no end of companies which, after the installation of first-class and expensive systems, have sat back and expected the inanimate records to undertake the executive control. Possibly cost accountants have had a little to do with this idea because, in the first enthusiasm, not a few of them were so carried away by the scientific possibilities that they quite forgot all about the human factor.

You cannot make money out of any cost system ever devised; but a cost system will show you how to make money. It will point out to you, if you look at it intelligently, where you can make improvements, and it is then clearly up to you to look about to find what are the most approved methods which may be utilized. If one does not know what he is doing, he will not be much interested in what others are doing better than he.

Choosing the Right System. In the space which is here at command it will not be feasible to go further than the elements of cost accounting, with such examples from experience as seem to illustrate the specific application of these elements. From them it should be possible to adapt such features as will apply in any special case.

Do not take any method in entirety. The manufacturer may have problems which will be helped out by a study of retail methods, the man selling services may learn from both. And again it may be desirable to have more than one method in a single establishment—different departments may require different methods. The man who takes but one system, half masters it, and then tries to adjust his business to it, will fail. He should know as much as possible about various installations and from them he can find ways to simplify or to make more accurate his own adaptations.

The first requisite in cost finding is to know what you have on hand and then to keep track of each article or commodity as it leaves your place, or as it travels from department to department. Governing the capital accounts, stockkeeping, and stocktaking, have all been given in detail in the foregoing chapters. The practices there explained and the forms shown were all designed to make part of a cost system. It will therefore be assumed that the reader is familiar with the registers of

plant and equipment and the inventory records and requisition forms. Floor plans showing all the details of your establishment should also be in hand; on them the machinery, fixtures, or selling departments should be located with numerals or symbols to indicate each piece or section.

Fundamentals of Cost. Your business is divided into at least two of three general divisions—materials, labor, and expense. In some lines of manufacturing the material item is very small, while the labor and expense are very great. In merchandising, usually the material makes up the highest cost item, while the labor, as compared with the volume of business, is comparatively small. A professional company has only labor and expense. But no matter what the combinations, two of the three elements are present. It is the purpose of cost accounting to show accurately the proportions of these elements in the price of that which is sold—whether that which is sold is a commodity or a service.

Material. "Material" in cost accountancy is that which actually goes into a product and which can be traced to, or seen in the ultimate finished article. Take a desk. The materials are wood, veneer, hardware, stain, and so forth. Other materials have been used in the production, such as sandpaper and oil, but these cannot be traced directly; they are classed as "supplies" and included in the "manufacturing expense." The same principles apply in the merchandising of finished products, although the peculiar points there arising will be taken up in a separate chapter.

Labor. "Labor," like "material," has its own divisions—(1) that which is direct and "productive" and (2) that which is indirect and often misnamed "non-productive." The man who cuts the wood for the desk, the planer, the cabinet maker, the rubber-down, the varnisher, perform services which may accurately be charged to an article; but it is not possible so to charge the time of the receiving clerk, or of the general foreman or superintendent, although it is often possible to charge the time of a "working" foreman. Therefore the items of labor which cannot go against a particular article, shift over into "manufacturing expense."

The charging of materials and labor to specific articles affords no great difficulty in most cases, for most of the items

are plainly traceable. It is with "manufacturing expense," the expense of doing business—the "overhead"—that the trouble comes, and here it is that the cost system makes good or falls down. The expense is not only hard to apportion, but it is often the big cost; it will run from a fraction of the cost of the material and labor to many times their value.

Expense. The indirect expenses, "overhead" or "burden," are all of the expenses other than those included in direct labor and material. Among them are the capital charges, depreciation, rent, heat, light, power, administration, selling, advertising—in short all of those charges which contribute either to the manufacture or to the sale of an article, but which cannot be pointed out in the finished article itself.

Apportioning the Expense. It is not difficult to discover these charges, but it is difficult properly to apportion them.

Why not take the total of all such charges, divide it by the number of articles produced or sold, and thus gain the overhead per article?

The result would not be the actual overhead per article, for each article does not absorb the same amount of charge. The figures would only be misleading; some articles would be overloaded and others have less than a full share. Hence some goods would be sold too cheaply and others at too high a price.

The same objection blocks any division of overhead on the basis of the cost of material; a gold ring does not take manufacturing expense against a silver ring in the ratio of the value of gold to silver.

There are no rough and ready distributions of expense. It is not possible here even to indicate them without trespassing on the later parts of this volume given to that particular subject.

Cost is not at all an accountancy matter. The statement of operation described in the preceding chapter will give you the total cost of operating for the preceding year. It has been the practice of many merchants and manufacturers to take their expense burden of the previous year as a basis for their operations in the succeeding year. That is the only figure which they can take if they rely upon accountancy proper for their results.

Costs from the Statement of Operation. What it cost to do business last year is not a guaranty of cost for this year. Such an assumption courts disaster.

Again, manufacturing expense, which is calculated from the statement of operation, is not in such specific detail as to form a basis for accurate departmental analysis. It must be remembered that ascertaining profits is only one part of a cost system. The even more important side is the bettering of manufacturing and selling methods. Business is built up by selling a better article than a competitor. The article may be higher in price but so much better in quality that it is ultimately cheaper; or it may be of the same quality as a competitor's but lower in price. If the price be lowered merely to get business, bankruptcy may be ahead, but if it be lowered on an intelligent and discriminating basis of costs, then sound business is furthered.

Using Cost Figures. The average manufacturer seldom hesitates to cut his prices to suit those of a competitor. Without a cost system he does not know that the other man may be selling below cost or that he may have some peculiar local advantage which gives him a profit where others would have a loss. The manufacturer who (without knowing costs) imagines that he can make anything as cheaply as any competitor is likely to be brought to a different notion by his creditors.

If you have an accurate cost system and a red balance appears denoting a loss on certain lines, drastic executive action is imperative and it may take any one of three directions: (1) manufacturing more efficiently, or (2) if such is impossible, increasing the price of the article, or (3) stopping the manfacture of the article entirely, or taking orders for it only in conjunction with more profitable merchandise.

Take the following two instances of how cost accountancy makes for profits—they are only two from many thousands.

After a few months' study of his problem, we were compelled to tell a large eastern manufacturer that unless better prices were had, only a slight margin of profit could be secured on a group of articles, representing 60% of his total business.

To convince him of the correctness of the contention, we analyzed, in the minutest detail, every element of cost, showed him where improvements could be made, and how much such improvements would reduce the cost of manufacture.

In our analysis, we were able to show seven items that yielded excellent margins of profit. Four of these had never been pushed because preference had always been given to the leaders—which were unprofitable.

That was four years ago. Last June an audit showed that the profitable lines had more than supplanted in volume the unprofitable ones, and as a result the per cent of net profit was exactly four times as great as in 1911, though the volume of business differed slightly.

Then there is the case of B whose sales manager insisted that the factory make everything for which orders could be secured; the catalog resembled that of a mail-order house.

After accurate costs had been procured, we convinced the general manager and the sales manager that much of the business was unprofitable. We showed that the setting-up time of small lots in the press room, which had previously been absorbed in a non-productive labor charge, often amounted to three times the actual operation performance time.

We also showed that, consequently, the inactivity of their expensive presses was very high because they remained idle while the dies were being set, and that, as a result, the cost per active hour was astounding.

We analyzed their tool investment for numerous items and showed that the sales per dollar of fixed investment were small; that small lot manufacturing demanded excessive clerical and non-productive help, and that many other manufacturing difficulties resulted.

Shortly thereafter every item in the line was analyzed from the viewpoints of past performance and future possibilities. The line was reduced; 350 articles were omitted. In addition, after many items a notation appeared to the effect that the price was dependent on the size of the order and that no order would be accepted below fixed minimum quantities.

That company is now making more money than ever in its previous history.

A increased his profits by gradually withdrawing from a line limited in its earning ability, while B's success came when he ceased doing a specialty business on lines that were not selling at specialty prices.

I have been speaking of cost accountancy only in general terms. In the following chapters will be taken up costs as related to manufacturing and selling, costs in the sale of services and costs in merchandising. Then we shall show how the ordinary books of account are used to check up the results obtained by the system—to indicate how all of the divisions of a business which is properly accounted dovetail together.

CHAPTER XVI

KEEPING A RECORD OF THE COST OF MATERIALS

THE charging of materials is, in general, the easiest portion of cost accounting and one where few can go wrong. The terms denoting the two divisions into which materials are divided for accounting purposes are (1) materials and (2) supplies. The materials are that which can be seen in the finished article or which can be traced definitely into it, while the supplies correspond to the indirect labor—they are in the article but not in a precisely measurable degree. Therefore, "supplies" charge into the department overhead.

In the chapter on purchasing (Chapter V) the fashions of stockkeeping and requisitions were described. Some such systems are essential in cost accounting.

The materials are charged directly from their requisition sheets to the cost sheet of the article or group which is going through the factory. The supplies requisitions follow the same course, but they are charged into the department overhead and reach the cost sheet in the distribution of that overhead.

It is of the utmost importance that materials and supplies be kept in separate records and it is equally important that the supplies be closely checked, for they are vague factors in which much waste may occur. A constant endeavor should be made to bring the supplies around to a material charge and some of the methods will be given later in this chapter.

When a job is undertaken, a cost sheet is made out with the name of the article to be constructed or of the lot, if the work goes through in lots. These cost sheets collect the entire costs of the job as it progresses and the further entries of labor and expense are discussed in the chapters immediately following. Here we are concerned only with the charge for materials and supplies. The cost sheets are kept in the office and ordinarily do not follow the work through the shops. They may be sup-

ported by subsidiary records but, insofar as the material is concerned, I think that all large entries may be accurately taken from the requisitions and data of the purchasing department. The entries are made at the inventory values.

The shop gets certain material on requisition from the stock room. The requisition contains the job number and it passes from the stockkeeper to the cost department where the items are entered against the job.

This is the easiest method of keeping track of material and no more involved method produces any better results.

Forms of Cost Sheets. Form 74 is designed for an article which goes through a number of departments in the course of fabrication, with various manufacturing expense and other charges in each department.

Form 75, in addition to the above, has spaces which show the hours so that the manufacturing expense may be distributed on the productive hour basis.

Form 76 is designed for a textile factory in which the product undergoes a considerable amount of shrinkage. Here the weight of the raw material is ascertained at the beginning and the lot is weighed at the end of each process to find the waste from shrinkage. The form is adaptable to any manufacturing in which the waste credits are important.

Form 77 is for a press work shop, such as a boiler shop or a concern making automobile springs, or for any concern where the steps in fabrication are definite.

Form 78 is for an article in which the labor operations are simple and which does not go into any considerable number of departments. The form shown has been used for some years in a glove factory.

It is always possible, but not always practical to trace every element of a product through the material. The cost of finding the amount of material used may run into figures comparable with the worth of the material itself. Therefore use common sense; do not run down each item as such—although the capability of making an intense pursuit should be present to be used when exact costs are needed as standards.

The proper course is to charge the amount of material according to the specifications—we know what should go into the job—and then keep tally on the waste. This is possibly a negative method, but it is practical and accurate in many cases.

Take the construction of a boiler. It would be both expensive and useless to weigh the big boiler sheets. One knows how much metal should go into a boiler. The sheets are of a certain thickness and more than the standard number cannot be used. The sole point is to figure the waste. We know the price of the sheets; we know the waste; the result is the material cost.

But a caution must be given against accepting the standard weights as always the actual weights. Not infrequently the costs of individual articles are figured on the basis of the standard weights and the differences between these weights and the actual are neglected. Take this case from an iron foundry:

Total metal cost	$10,500
Total pounds of good castings made—actual	1,500,000
Metal cost per 100 pounds good castings—actual	$0.70
Total pounds good castings made—standard	1,425,000
Overweight	75,000
Value not accounted for in costs (75,000 lbs. at $0.70)	$525

FINAL COST

Machine or Part

Description	Symbol	Materials	Labor					
			Dept.	Dept.	Dept.	Dept.	Dept.	Dept.
Assembling								
Total Materials								
Total Productive Labor								
% Added for Expense								
Amount of This Expense								

Summary

Total Materials $_____

Total Labor and Expense $_____

	Labor	Expense
_____ Dept.		
_____ Dept.		
_____ Dept.		
_____ Dept.		
_____ Dept.		
_____ Dept.		

Total Expense $_____

Total Labor $_____

Total Factory Cost $_____

Sold At $_____

% Selling Expense $_____

Net Selling Price $_____

Profit or Loss $_____

Form 74

The cost per 100 pounds of good castings is figured from the actual weight, while the cost of an individual article is computed from the standard weight. This results in the exclusion of the value of the overweights from the costs. The above considers only the material value, but there is generally a similar omission in computing the melting cost and other operations that are figured on a weight basis, such as cleaning and grinding.

FINAL COST

Style No._____ (and Such Other Description As You Desire)

Material, or Operation and Description	Material Values	Productive Labor													
		___Dept.		___Dept.		___Dept.		___Dept.		___Dept.		___Dept.		___Dept.	
		Hrs.	Amt.	Hrs.	Amt.	Hrs.	Amt.	Hrs.	Amt.	Hrs.	Amt.	Hrs.	Amt.	Hrs.	Amt.
Total Materials															
Total Productive Labor															
% Added for Expense															
Amount of That Expense															

SUMMARY

Total Materials
Labor and Expense $_____

	Labor	Expense
_____ Dept.		
_____ Dept.		
_____ Dept.		
_____ Dept.		
_____ Dept.		
_____ Dept.		
_____ Dept.		

Total Labor $_____
Total Expense $_____

Total Factory Cost $_____
Sold at $_____
__ % Selling Expense $_____
__ % Discount $_____
Net Selling Price $_____

Form 75 Net Profit or Loss $_____

Handling Losses or Wastes. Another example of the same kind of error is the neglect of material and processing cost on articles that are spoiled, lost, or that otherwise disappear in process. For instance, enough material may be issued to produce 100 of a given article. The earlier operations may be performed and the 100 remain intact up to some point where a number are spoiled. In very many cases costs will be figured just as though the original 100 were completed and were available for sale. For instance:

Value of material originally issued for 100 pieces (10 cents per piece)....$10.00
Labor and expense cost of 100 pieces up to the point where 5 pieces are spoiled (15 cents per piece)..... 15.00
Total cost up to point of spoilage.....$25.00
Additional labor and expense for completing 95 pieces (2 cents per piece) 1.90
Total gross cost of 95 completed.....$26.90
Less scrap value of 5 pieces spoiled (2 cents per piece)..... .10
Additional labor and expense for completing 95 pieces (2 cents per piece).$ 1.90
Total net cost of 95 pieces..... 26.80
Net cost per piece.....28.2 cents

DESCRIPTION 2-31 yarn from 3/8 Alabama Wool
SHRINKAGE 40%

WORSTED YARN COST
LOT NO. 8

DATE
PRICE PER LB. FINISHED #0.808

MATERIAL				WASTE					LABOR AND EXPENSE			
	Pounds	Price	Amount	Kind	%	Pounds	Price	Amount	Operation	Pounds	Price	Amount
Clean Wool	31,468	$0.544	$17,118.59	Burr		259	$0.10	$ 25.90	Carding	28,991	$0.0159	$ 461.83
				Card		1,003	.06	60.18				
				Sweeps		1,215	.10	121.50				235.18
									Gilling	25,019	.0094	235.18
				Noils	13.70	3,972	.33	1310.76	Combing	25,019	.0109	272.70
TOTALS			17,118.59					1,518.34	"			969.71
Waste Credits			1,518.34									
Net Stock Cost		.624	15,600.25									
Unit Cost		.038	969.71									
Costs of Tops	25,019	.662	16,569.96									
				Laps	1.04	269	.52	139.88	Drawing	24,726	.0272	672.55
				Sweeps	.1	24	.10	2.40				
				Laps	5	123	.52	63.96	Speeder	24,603	.0134	329.68
				Laps	1.4	344	.52	178.88	Spinning	24,038	.0420	1,009.60
				H-Ends	.2	49	.35	17.15	31's			
				Fly and Swp.	.7	172	.10	17.20				
				H-Ends	.9	216	.35	75.60	Twisting	23,702	.0258	611.51
				Sweeps	.5	120	.10	12.00	2-31's			
				H-Ends	5	119	.35	41.65	Spooling	23,583	.0179	422.13
TOTALS			16,569.96					548.72				3,045.47
Waste Credits			548.72									
Net Stock Cost		.679	16,021.24									
Unit Costs		129	3,045.47									
Total Yarn Cost	23,583	.808	19,066.71									

Form 76

Very frequently the cost of such an article is actually computed by adding together the three figures for material and manufacturing costs per piece (10 cents, 15 cents, and 2 cents) to give a total cost of 27 cents. This results in a figure more than 4% less than the actual cost.

Or take it from a different field. The higher grades of certain fruits, such as olives, are packed in fancy bottles. These elaborate bottles are more fragile than the ordinary bottles and quite a number of them break while being filled. The bottle is, of course, quite as much a part of the finished product as is the olive itself, because they are sold together. It would be unfair to charge the bottle breakage over everything which the factory

produced. The procedure is to charge broken bottles as waste against good bottles and thus arrive at the actual cost. This cost is somewhat higher than the original cost price.

The setting of standards and the giving of a bonus which increases as the waste decreases will work wonders for exact costs and also may often be used to take that which could otherwise be classed only as "supplies" into the category of directly chargeable material.

A "standard" is arrived at by discovering exactly how much material should be used and then allowing a percentage for absolutely unavoidable waste. The resulting figure is the

FINAL COST

Finished Weight _____ Model _____
Selling Price _____ For _____

Description	Order No.				Order No.				Order No.			
	Labor		Expense		Labor		Expense		Labor		Expense	
	Hrs.	Amt.	Rate	Amt.	Hrs.	Amt.	Rate	Amt.	Hrs.	Amt.	Rate	Amt.
Shear												
Punch												
Form Eye												
Ream												
Trim												
Saw and Bead												
Total Labor												
Total Expense												
Steel												
Lbs.												
Lbs.												
Lbs.												
Lbs.												
Purchased Parts												
Total Mfg. Cost												
Freight												
Normal Selling Expense												
Total Cost												

Form 77

"standard." One does not get a standard by merely measuring or weighing a certain number of the products, already made, for in some of those the amount of material may be excessive and thus the result instead of avoiding future waste would only extend bad practices of the past into the future. One foundry lost $20,000 a year through adopting a standard weight from a group of castings all of which were grossly overweight.

The standard may relate to the use of material or to breakage. The bonus should be planned to reward speed but also to penalize imperfect work to such an extent that only the operative who is both fast and careful can have the reward. Therefore one fixes ratios of imperfect to perfect work and of total waste to perfect production. This double-barreled system guards against both kinds of waste—the waste of "seconds" and complete waste or spoilage.

Standardizing to Prevent Waste. Take the cutting of cloth: We have watched the cutting and piling of countless garments

FINAL COST

CONTRACT NO._____ DESCRIPTION_____

Part Name, Drawing Number or Symbol	Material		Labor and Expense	
Total Labor and Expense			$	
Total Material			$	
Total Factory Cost			$	
Sold @	$			
_____% Selling Expense	$			
Net Selling Price			$	
Profit or Loss				

Form 78

and almost without exception we find the cutter moved by a spirit of generosity. He leaves a margin of safety for the unknown future customer. Or the cloth may be wrinkled and not sufficiently smoothed before cutting. Either way the average excess will run from one eighth to one half an inch per garment. I have seen it run far in excess of one half inch.

No useful purpose is served. If a shirt is cut to a pattern assumed to be correct in size, the added length is useless.

But from the manufacturer's standpoint a difference of one quarter of an inch per shirt is a momentous matter. Consider 500,000 to 1,000,000 garments per year; 125,000 to 250,000 inches of knit cloth per year wasted. Multiply that by the average cost of the cloth.

This waste has been minimized by the installation of a bonus to the cutter based on the quantity of cloth used against the standard that should be used.

For many years manufacturers have charged the same price for clothing, regardless of the size, except for the break between misses' and women's sizes and between boys' and men's. The same has been true of shoes. It is self-evident that the larger sizes must take more cloth than the smaller and hence must cost more to make; the argument has been that the whole thing averages up in the end. It averages only if the sales happen to fit the sizes. With shrewd buyers the sales do not fit the sizes; the manufacturer with exact costs will charge somewhat less for the small sizes than does the man without costs; also he will charge a higher than the flat price for the big sizes. The expert buyer takes the little sizes from the cost man and the big ones from the flat price. Thus the biggest trade of the man without costs will be in the goods upon which he either makes no profit or has a loss. I recall a case of a knit-goods manufacturer who sold at a flat price; his profit per dozen on size 36 was 25 cents, on 38 it was 7 cents and on size 40 the loss was 10 cents. Exact costs either prevent flat prices or insist on selling lots assorted so that a profit will be made on the whole.

Plans That Reduce Waste. Take a similar case in a hat factory. Each girl, whose task it was to encircle the hat with a ribbon and prepare a bow, was given a roll of ribbon from which she drew the amount required. Almost invariably, when cutting off the length, a quarter or a half inch or even more of additional ribbon was cut off as a margin of safety, it being admittedly difficult to judge the precise amount required until the ribbon was "tacked" on, particularly as it was necessary to cut the ribbon before fastening it on the hat.

A method was devised by which the operator sewing on the bands and bows was supplied with ribbon cut to length; a proceeding that saved the operators considerable time. As the

storekeeper supplying the ribbon was furnished with gages of the precise lengths required, she was able easily to cut the ribbon to the desired sizes without a bit of waste.

At the end of the year it was found that the cost of the ribbon used upon hats corresponding in number with the quantity completed in the previous year had been reduced by about $800 which may well be considered a worth-while saving.

Sandpaper is a common commodity and is used in many plants. To a workman, particularly one on a wage incentive basis, it is easier to employ fresh paper and toss it aside without entirely wearing out the sanded surface, than it is completely to use the paper. In some factories where a huge amount of sandpaper is required, this unused proportion can amount to a very consequential figure. The loss can be reduced in several ways, of which the following are three:

Cut the sandpaper so that all of the paper in hand will be applied to the surface to be sanded, thereby eliminating the generally unused outer margin.

If the work is sufficiently uniform to enable the amount of paper that should be used to be estimated with fair accuracy, supply paper to the extent required, offering a bonus of a part of the value of the paper saved.

If a piece rate exists, charge against the workman the sandpaper given him and allow in the piece rate sufficient to compensate him. He will not use sandpaper after it has lost its working value, for that would decrease his piece-work earnings; nor will he throw the paper away needlessly, for he will regard it as his own and appreciate its cost.

Silk thread in a sewing room is always a source of loss. In most cases women operatives are employed and silk thread can always be used in the home, so that despite checking precautions, countless spools of silk find their way out of the factory. Moreover, inspection of garments, gloves, and so on, almost invariably reveals long ends at the finish of a hem or seam, these frequently exceeding in length the thread actually used in the stitches. Such ends are later clipped by inspectors or finishers and prove to be practically an entire loss.

To avert this loss, as in the sandpaper, the silk can be charged to the employee and the rate paid made to cover that properly used. This has the effect of rendering cautious the user of the silk and making thievery objectless.

In large printing establishments the ink is dipped out of cans and applied to the ink plate of the presses. This "dipping" process almost invariably leaves a fraction of the ink, which is of a heavy consistency, in the can around the sides and on the bottom. The cans can be soaked in a solution, which in turn is poured into a concentrating tub or larger can. When the ink has settled to the bottom the solution can be poured off and the ink used.

Solder has become very costly, yet its use continues in canning factories and many other places such as in the making of railroad lanterns, some kitchen utensils, and so forth. Ordinarily an enormous amount is wasted by reckless "slobbering." Tests have shown this waste to run over 150%. It is possible to standardize the amount to be used and pay the workmen a bonus to prevent waste. There have been instances of a saving of from $400 to $500 to a man in a year.

The amount of copper or brass wire used in electrifying lamps, and many other items, can be lessened by careful cutting to size by one person assigned to the task and who is offered a bonus for quantity saved, instead of following the common practice of having each operative snip from a bolt or reel the amount desired.

The above, more or less random examples, should serve to show the possibilities which exist in the way of standardization to prevent waste.

Charging Scrap. A certain amount of scrap is inevitable in many operations. Whether this is to be considered as waste and the scrap value charged into the overhead expense, or whether the scrap should be credited against the cost of the article, depends upon circumstances.

Waste should always be localized unless it is of such slight value that it will cost more to localize it than to disregard it. For instance, if an iron casting which weighs four pounds is reduced to three pounds in the process of machining, there must be one pound of waste. But this pound of cutting has scarcely any value. In fact it scarcely pays for the trouble of sweeping it up and taking it away. Therefore we carry through on the cost sheet the original weight of the casting as four pounds, for that is really the amount of material which went into it. The waste is then credited to overhead account because the cost of removing it is an overhead expense and it should help pay the cost of getting it out of the place.

If, however, that casting had been made of brass, or some other expensive metal, the waste would have considerable value. If the value of the brass waste were not deducted, the owner would have a cost for his finished casting which would be considerably above its actual cost. He would lose business because he did not know the real margin of profit.

Many otherwise good cost systems fail because of an incorrect absorption of the scrap or waste. Scrap presents one of the most difficult and elusive of problems.

In formulating a plan for the gathering of scrap data and determining a method for the distribution of losses, the following points should be considered:

1. Margin of loss existing between the purchase price as good raw material and its value when sold as scrap or again used in some other product.
2. Quantity of scrap produced.
3. The proportion of scrap found necessary to perform an operation, without spoilage being a factor, as instanced in press work, in the blanking, piercing, and trimming operations.
4. The amount of work spoiled due to carelessness on the part of the operator, defects in the material, and so on.
5. Possibility of reuse as illustrated in foundry work, yarn spinning, the manufacture of candy, paper, and the like.
6. The amount of labor and expense lost on spoiled work.
7. The plan of collecting costs.
8. The difficulty in determining accurately the scrap produced.

There are a number of factors that must be considered before deciding on a definite program. One, not mentioned above, but deserving special attention, is the thorough study of the product and processes.

There are three generally accepted methods of distributing the scrap loss.

The first method is to make the charge direct to the part or the article. Such a procedure should invariably be adopted where the loss is a heavy one. The fabrication of sheet brass, copper, and aluminum into finished articles is an illustration. The per pound loss on copper, when sold as scrap, for example, varies from 3 cents to 9 cents a pound, depending on the amount of extras, such as rolling mill charges, freight, special widths,

gages, finishes, and so forth. The exact amount of scrap must be known and absorbed by each part or article. It is often desirable to detail such losses by operations.

A second method is where costs are procured by lots or orders, as, for example, in the spinning of cotton, woolen or worsted yarns, in the manufacture of paper, food products, candy, and allied industries. The good units produced must bear all of the scrap losses entailed.

A third method is sometimes employed, where the value of the scrap produced is small. This is true in the manufacture of sheet steel and tin plate products and certain woodworking industries. Where this method is applied, the article is charged with the gross material used. The scrap credit is effected by lessening the manufacturing expense, crediting this account with the selling value of the scrap. If a varied line is manufactured, care must be exercised to distribute the credit only to the articles originally charged with the gross material cost.

It is the exceptional industry where the scrap loss is less than 2%. Generally it is considerably more; yet it is usually glossed over or distributed unfairly on a uniform per cent basis resulting in inaccurate, unreliable costs.

Often Salvaging Pays. The intelligent sale of scrap will warrant attention in almost any business. Some of the material which goes into the heap may be reclaimed and all the scrap will bring a better price if sorted. The returns on salvaging are often considerable.

One of the greatest difficulties in the cost accounting of materials is where, in the process of manufacturing, the identity of the original material is lost (as in many laboratory operations) or where the finished product comes out in several grades.

Take the packing of cherries. These may all be bought at the same price and are presumably of the same quality. But they must be sorted into various sizes and, in the end, the material which started as one grade is divided into 10 or 12 different grades, each of which may take a different kind of packing and each of which commands a different price.

If we say that because the original commodity had a certain price, that the 12 different grades have each the same cost, we reach the position that part of our product is being sold at a very high profit and another part at a considerable loss. We neglect to note, in such reasoning, that the labor on the higher grades is

very careful and therefore costs more than on the lower grades.

Here is the proper method. Suppose we buy 200 pounds of the article at $10 per 100 pounds; the cost is $20. This goes out as 100 pounds of first-class material that sells at $20 and 100 pounds of second-class material which sells at $10. The first-class material costs $3 for labor and expense, which gives a selling price less fabricating cost, of $17. The second grade costs $2 for labor and expense, or a net selling price, less fabricating cost, of $8. How should the material costs be distributed? The net selling price of the higher grade is 2⅛ times as great as that of the second, therefore it takes 2⅛ times as much of the raw material cost.

The same principle of calculation goes through the determining of the cost of all food products; in fact, of any product which turns out in several grades. That which might be considered as a loss on the inferior product is shifted over to the better product, so that each will bear only its proper proportion. It is true that the material cost for each was superficially the same, but it is not true that the final cost of the material is identical. That original commodity has resolved itself into different grades. Ostensibly we had purchased but one kind of cherries; as a matter of fact, we bought merely a bulk amount and then, later, discovered exactly what we were buying.

Through the many different examples which I have cited, it might seem that material cost was not so ingenuous as I first stated. But the principles are all very clear, and the applications, reduced to these elements, are simple enough. I have given no fixed principles, but examples instead—only to prevent the reader from imagining that one method might fit all cases.

CHAPTER XVII

HOW TO FIGURE THE COST OF LABOR

LABOR falls into two divisions—the direct or productive labor, and the indirect or non-productive labor, on exactly the same theory as in the division of material and supplies. The direct labor is a charge against the job, while the indirect goes to the departmental overhead. For the same reasons that governed the disposition of material, the constant effort of a cost accountant is to regulate the indirect labor, so that it may be put upon a specific job instead of being averaged. Always—it cannot be too often pointed out—the effort in cost accounting is to charge directly, and to leave as few items as possible to apportionment.

The mere cost accounting of labor does not involve even the few difficulties that attend the recording of material. The purely mechanical side of the payment of labor—the making up of the payroll, the manner of payment, and the like—have already been taken up in Chapter VI, and the methods there given should be read in connection with this chapter. The basis on which to pay operatives—a day rate, an hour rate, by piece work, or by a combination—the matter of bonus, profit sharing, and the like, and the selection of the best plan for your own particular needs are immense subjects in themselves. Getting the best out of labor is no part of cost accounting, but the comparisons which inevitably flow from the adoption of a cost system will shortly direct executive attention to labor. I do not know of a single cost installation which could not eventually put the men on some kind of an incentive basis; that is, put the men in a position where extra effort, either in the way of care, or of increased production, or both, is rewarded by additional payment to the mutual advantage of the employers as well as to the men.

Paying Productive and Non-Productive Labor. The common arrangement is to have an incentive plan of payment for productive labor and charge the non-productive labor at

hour or day rates. I cannot suggest any particular plan which will always apply under all conditions and to every grade of employee. There is no such plan, and I doubt if any factory will find it advantageous to maintain a uniform system throughout its whole plant. Some incentive is always beneficial in productive labor, but piece work is by no means the only way out. The balance between care and speed is a nice one; and, as I have shown in Chapter XVI, the end of the manufacturer is to attain a maximum production of first-class commodities, and not merely a maximum production.

The right plan can always be found and it is worth seeking far and wide. Do not merely "guess" that your plan is all right. Know. And, if you have piece rates, know that they are equitable. Piece work is somewhat worse than useless unless the rates are carefully set. If the unit pay is too low, the employee becomes dissatisfied; if it is too high, your employees will quickly find that fact, and instead of exerting themselves to gain the highest possible wages, will devote considerably more attention to trying to "get away" with the high rate. I think that at least 90% of the rates in the United States are inequitable either to the employer or to the employee, and often to both.

Take a glaring instance from a large plant which I investigated not long since. The employees of this and several associated plants numbered over 3,000, the majority being unskilled help, both men and women.

We made a careful time study of a number of representative operations among employees of an equal grade. We found what each could turn out if 100% efficient. We multiplied their possible output by the piece-work rate.

This is what each could earn:

WOMEN

	Rate per 1,000	Pieces per day	Possible earning
A	$0.13	13,500	$1.75
B	.13	11,570	1.50
C	.33	2,700	.89
D	.43	2,314	1.00
E	.43	3,115	1.35
F	1.33	1,723	2.30
G	3.00	1,409	4.23
H	1.67	406	.68
I	4.67	315	1.48
J	.30	5,786	1.72

MEN

	Rate per 1,000	Pieces per day	Possible earning
A	$1.25	2,000	$2.50
B	2.00	1,256	2.51
C	.40	1 514	.61
D	.50	8,100	4.05
E	.26½	10,125	2.68
F	.46	8,100	3.73
G	.46	9,530	4.38
H	.23	11,570	2.66

Such rates as these are hopelessly unfair and can result only in general condemnation of all piece-work plans. Here exactly the same output of time and skill might bring a man anywhere from 61 cents to $4.38 a day, with a similar range for women, except that the lowest rate for women was higher than the lowest rate for men!

No one had ever thought to check up the rates. They had been arbitrarily set and then forgotten. The foreman is supposed to know the rate basis. But how often does he know? I find that foremen generally set rates simply on the performance of the best operator and without a thought of the actual motions involved.

Proper rates are to be had only after a time study to determine the possible output with a liberal allowance for personal necessities. Treating a man solely as a machine results in a poor machine.

Charging Direct Labor. Whatever basis of payment be adopted, the direct labor charge goes to the operation. If piece work is in vogue, the amount to charge for labor is automatically fixed by the rate. Otherwise the time must actually be entered; there are many excellent methods of arriving at this end.

I do not as a rule favor any plan which provides a separate tag for each job, and on which tag the labor is entered, either by the men themselves or by the timekeeper or foreman, when the operation is finished. The place for the cost summary card is the office.

A form of time card which has given splendid results wherever used is Form 79. Each card covers but a single job and the form is more particularly designed for a shop in which the lots are of fair size, so that not more than one or two cards will be needed during the day. Of course it is entirely possible to make divisions so that several lots may be covered by the same card. But the

form is immaterial; the point is to get something which meets your conditions. The valuable portion of the card shown is the division into hours and tenths of hours. When a workman starts he puts an X on the starting time and when he finishes he puts an O in the proper square. If the workman or the timekeepe. were permitted actually to write in the starting and the finishing times, accurate timekeeping would never be had. They will conceal the time between jobs.

One job does not always instantly follow another. There is always some waiting time between jobs, and unless this waiting time appears in the records, the cost will not be true. The waiting time is part of the shop overhead and to charge it to the next job is unduly to increase labor and also to blind the executives to the time which is being wasted. The blank squares between the finish of one job and the start of the next, represent the idle hours and are posted to an idle hour card.

"X" START											"O" FINISH
MORNING	7	706	712	718	724	730	736	742	748	754	
	8	806	812	818	824	830	836	842	848	854	
	9	906	912	918	924	930	936	942	948	954	
	10	1006	1012	1018	1024	1030	1036	1042	1048	1054	
	11	1106	1112	1118	1124	1130	1136	1142	1148	1154	12
AFTERNOON	1	106	112	118	124	130	136	142	148	154	
	2	206	212	218	224	230	236	242	248	254	
	3	306	312	318	324	330	336	342	348	354	
	4	406	412	418	424	430	436	442	448	454	
	5	506	512	518	524	530	536	542	548	554	
	6	606	612	618	624	630	636	642	648	654	7

ARTICLE NO._____ OPERATOR'S NO.____

ARTICLE NAME_____

DEPARTMENT_____ DATE_____

ORDER NO._____

OPERATION_____

QUANTITY STARTED_____

QUANTITY FINISHED_____

QUANTITY SPOILED_____

TIME		RATE	WAGE
HOURS	TENTHS		

O. K.

FOREMAN

Form 79

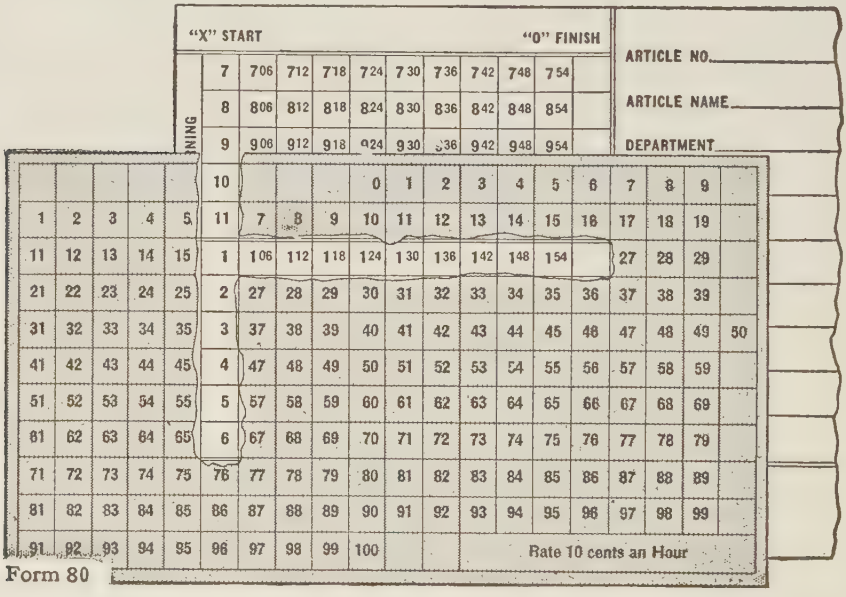
Keeping Time. In larger establishments and even in many small factories, the mechanical timekeepers may be used to advantage and they may be operated by a timekeeper or, if the number of employees is small, by the foreman.

In any event the time should be entered when the labor is performed. Leaving all the records to the end of the day is fatal to accurate costs. If you find your foreman with a bunch

of cards in front of him, just after quitting time, guessing that Jim spent so many hours on that, and Mike so many hours on this, you may take for granted that your cost system, insofar as the labor end is concerned, is only an exercise in mathematics.

The labor cards go through the departments to the payroll clerk who checks up with the time clock and makes the necessary records for the payroll. Then the cards pass to the cost department and are entered on the proper cost sheets and filed as subsidiary records to these sheets.

A convenient wrinkle in translating the men's time into dollars is given in Form 80. The tables are of celluloid or other transparent material, one being provided for each rate, and are arranged on the principle of the slide rule to quicken the calculations and to minimize error.

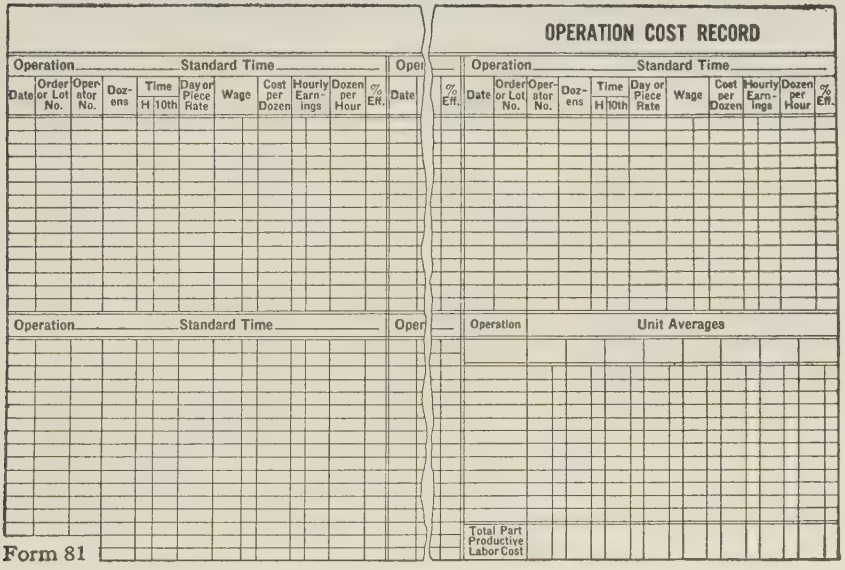


Form 80

A useful check on the efficiency of the labor is the operation cost record shown in Form 81. The actual time for each operation is here entered by the cost clerk, and the performance in the factory compared with the standard times. The standard times, of course, have been set by time studies expertly made as already described. The relation of the actual to the standard time gives the efficiency percentages, and if these percentages are low, an investigation is in order. A low percentage of efficiency may

mean that the labor is at fault. I say "may" because that conclusion should not be jumped at; there may be a dozen other reasons for the low record, any one of which will bear investigation.

The foregoing labor records are part of a cost system which revolves around a production unit or a labor dollar. But if the machine hour basis is used, then it is the time of the machines which is important and the labor is only incident to the running of these machines. Form 82 groups the labor and machines and also provides for the final machine costs, spaces being provided for the apportioning of the fixed charges—power and other expense items which the particular machine absorbs. The averages of the machine performance, made up at the foot of the column, will afford valuable comparisons.



Form 81

The operations of all machines go to a summary as in Form 83 in which the actual hours used are compared with the available hours and the percentages are derived. The percentage of actual to available hours will often be most surprising. You will probably be at a loss to decide whether you have been supporting the machine or the machine has been supporting you!

The summaries and comparisons which cost accounting affords on so many different points are an invaluable aid to better business and therefore to better profits.

Non-Productive Labor. The non-productive labor, not being chargeable to a specific job, involves in its recording only the starting and finishing time—usually the beginning and the close of the working day—and the charge to the proper department. If the operatives work continuously for one department, a card is scarcely necessary; if, however, they work part of the day on an overhead to department A and the remainder of the day on an overhead going to department B, then a card should be made out in order that departments A and B may each obtain the proper share of overhead.

MACHINE OPERATION RECORD
Month of _____191_

	Machine Number					Machine Number					Machine Number					Machine Number				
	Payroll	Operator		Helpers		Payroll	Operator		Helpers		Payroll	Operator		Helpers		Payroll	Operator		Helpers	
		Hrs.	Amt.	Hrs.	Amt.		Hrs.	Amt.	Hrs.	Amt.		Hrs.	Amt.	Hrs.	Amt.		Hrs.	Amt.	Hrs.	Amt.
Labor	No.					No.					No.					No.				
	No.					No.					No.					No.				
	No.					No.					No.					No.				
	No.					No.					No.					No.				
	No.					No.					No.					No.				
	No.					No.					No.					No..				
	No.					No.					No.					No.				
	Total																			
Total Labor																				
Power																				
Fixed Charges																				
Repairs																				
Share of Department and General Expense																				
Total Actual Machine Cost																				
Actual Cost per Hour																				
Share of Department and General Expense (Aver.)																				
Total Average Machine Cost																				
Average Cost per Hour																				

Form 82

Since the indirect labor is not charged directly to a job, it is often imagined that wage incentives cannot be used; but, on the contrary, they quite often can be used to great advantage.

Who knows just what he is getting out of the cleaners, and shippers and truckers? In most factories this type is from 10% to 33% of the whole. Take one shipping and receiving gang. Their work was so complex that it had not been considered possible to devise a wage incentive. The difficulty arose from the numerous sizes of packages and cases in which the finished product was shipped, the number and location of the finished stock warerooms and shipping platforms, and the variable distances which had to be covered by the truckers.

There existed approximately 100 different kinds of packages to be handled between seven store rooms and nine shipping points, some of the storage rooms being up four floors. As any of the finished articles might be stored in any one of the warerooms and have to be delivered to any of the shipping platforms, there were theoretically 6,300 possible combinations for which rates had to be set.

In working out this problem however, it was found that the variations in the loading and unloading time of standard truck-

MACHINE OPERATION SUMMARY

Period Ending _____

Machine No.	This Year					Last Year		
	Available Hours	Active Hours	Cost per Hour		% Active to Available Hours	Cost per Hour		% Active to Available Hours
			Actual	Average		Actual	Average	

Form 83

loads were small. A very simple table of rates was devised to provide for the different distances of travel and the few variations in handling time.

Practically no additional effort was needed to keep the record of this group's work for payroll purposes and the net result was a reduction in the shipping labor cost of 30%. The number of men required after the gang was put on piece work was approximately one half that necessary under the day wage plan, and those retained in the crew were figured to earn an average of 22½ cents an hour on the piece basis as against 18 cents before the change was introduced—an increase of 25% in the average earnings per man. The company saved about $6,000 a year on its shipping and receiving alone.

Whatever the task, some way may be found to pay men better wages for better work.

The Problem of Timekeeping. In large factories and even in some small factories, the timekeeping problem is a very serious one. Owners should not forget that they are paying the full

market rate for all of the delays at the door when the men come to work, although the employees are quite cheerful about delays which prevent the beginnings of a task. On the other hand, they are most insistent that nothing shall delay their precipitous exit when the whistle blows; remembering the delay in getting in, the men make sure that they will not be kept back in the evening. The clock watchers—and they are in the majority—will quit in ample time to get a good place in the line leaving the factory. Thus the owner loses coming and going; the daily time loss, multiplied by the number of working days in the year, makes a neat sum of money.

Making the Payroll Talk. The figures which are derived from the labor side of the cost system should preach no end of sermons to the man who understands them. The man who knows only the amount of his payroll knows nothing of his business. I am glad to say that few manufacturers today are quite so uninformed as that. The departmental payroll is fairly common but it also can be improved upon.

Here is a hint as to possibilities. Start with a departmental summary in this form:

Department	Amount paid	Workers
A	$ 251.25	20
B	701.02	36
C	387.29	30
D	1,521.14	138
E	527.82	56
Total	$3,388.52	280
	Average wages $12.10	

This arrangement fails to tell where a man is working. Employees transfer from department to department and a form of this sort makes it simply a matter of judgment on the part of the payroll clerk as to where the man should be counted as working. To overcome this and to give the information sought for, a payroll summary has been devised along these lines:

Department	Total pay	Direct labor	Indirect labor	Hours	Average rate
A	$ 251.25	$ 200.79	$ 50.46	1,005.0	$0.25
B	701.02	690.12	10.90	2,002.9	.35
C	387.29	362.41	24.88	1,683.8	.23
D	1,521.14	1,318.77	202.37	7,605.7	.20
E	527.82	527.82	.....	3,104.8	.17
Total	$3,388.52	$3,099.91	$288.61	15,402.2	$0.24

This method gives an easy chance to curb the foreman who is always kicking about the difficulty in getting men. A comparison with other departments would show the fallacy of his argument (see department B).

It is simple enough, after setting up the payroll summary, to give it an actual living meaning by adopting it as a control of the labor costs in connection with production.

The cost department receives production reports from the various departments, but commonly uses them only to determine monthly output figures. By gathering the figures from these reports each week, one may set up a weekly production record like this:

Department	Quantity	Unit
A	20,000	lbs.
B	10,000	lbs.
C	13,750	yards
D	2,050	dozen
E	2,225	dozen

If the payroll summary is then compared with the production report, the labor cost per unit in each department will be had. Comparing each week with the preceding week will immediately locate any tendency in the labor cost per unit to depart from the normal.

The above method is possible only where a unit can be provided, as in textiles or some metal-working factories with a single product. If no unit of output can be arranged, then the efficiency percentages of the labor may instead be used. Space for such ratings is to be found on Forms 36, 37, 38, and 39. The standard times are found through time study.

Cost study of labor leads to efficiency investigation. Once you know the amount of money you are losing through bad methods, the further investigation follows as a matter of course.

CHAPTER XVIII

HOW TO DETERMINE THE OVERHEAD EXPENSE

THREE elements enter into the cost of a finished article material, labor, and expense. In making up the cost of our finished product we have already the entries upon the final cost sheet for material and labor. But material and labor are not the sole elements of manufacturing; one must have a place to work, tools with which to work, and various supplies.

None of these expenses are for the benefit of one particular article or job as distinguished from its fellows, but certainly they are a part of the cost of doing business and must somehow be gotten into the final cost of the finished article. They seem to come from above—to bear down on the labor and material and hence they are called "overhead" charges or, simply "expense." The English term is "burden."

The distribution of the overhead expense is where most cost systems fall down. The very name "overhead" denotes the dread with which this inclusive item is viewed by so many manufacturers.

No fixed, general rules can be laid down for expense distribution, but from the plans herein suggested, some ideas to fit your own case can be had, although this chapter is to be considered only as an introduction to manufacturing expense, a stimulation to further investigation.

The end of all calculation of manufacturing expense is to get the costs into the goods themselves, and therefore, instead of considering overhead merely as an unavoidable burden, the thought should be to devise new ways to lessen overhead and to put the costs directly into the product. They will, of course, come into the product in any event, and it is always more accurate to charge directly than by percentages.

Overhead arises from a great many different sources. Some of the charges are fairly fixed while others fluctuate. Therefore each source must be kept separate, so that its operation may be

studied, and then finally all of the sources connected with the goods themselves; for, to be useful, costs must eventually be brought down to the selling unit. If one knows the cost of the selling unit, then the selling price of that unit may be intelligently fixed. If, however, as is often the case, the sales price cannot be based upon the cost, but is regulated solely by competition, then the unit costs will give a start for the business man to go back and discover if somewhere along the line he is not making a useless expenditure, or whether it will not be profitable to revise his lines.

One great purpose of modern cost systems is to bring charges directly against the products—to put the material and labor against the specific article—and to avoid treating expense as a necessarily inclusive head.

The indirect or "overhead" expenses are all of the expenses of doing business other than those included in productive labor and material. Among them are rent, heat and light, administration, selling, advertising—in short all those expenses which cannot specifically be pointed out as such in the finished article. For instance you cannot translate minutes of power applied into ounces of coal, and even if you could, the calculation would not be sufficient in itself unless you also discovered the amount of lubricating oil consumed in transmitting that minute of power, the wear and tear in each stage of creation and transmission, and so on into an infinite number of details. Perhaps such calculations might be possible, but certainly they are not practicable, and the result would be a plant devoted more to the calculations of expense than to the making of money.

Instead of endeavoring to go into such refinements, we locate the controlling section; we find out how much power that section uses, the proportions which the various machines use, and then work down to an approximately accurate cost unit to which are charged not only the power used, but also the other matters of general expense which it absorbs.

The idea is to put all of the expense on the specific finished article so that its exact cost may be known, but at the same time to divide that expense among the departments of the business in order that the working and efficiency of any one department may be expressed in figures fit for comparisons.

The Divisions of Expense. The possible expenses can be broadly grouped under three heads:

1. The fixed charges—that is, the charges which spread over the entire establishment, such as rent, insurance, taxes, mortgage interest, depreciation, and the like, according to whether the plant is leased or owned. The amount of these expenses seldom varies with the volume of business.

2. The contributory department charges, the expense of which will vary with the volume of the business and which operate for the benefit of the factory as a whole. Among these are the office expenses, executive salaries, general superintendence, heat, light, and power, the upkeep of the stock room, the receiving room, and the shipping room.

3. The productive department charges which arise in the sections of the factory which are actually working upon the goods but which are of such a character that they cannot be charged directly into a particular item of product, as supplies, trucking, indirect labor, and departmental supervision.

We must gather these various charges at their several sources and then find some method of getting them into the cost of the goods themselves.

The Fixed Charges. These arise out of the very being of the plant and continue whether or not the business is operating. They are such charges as rent (or in the case of ownership of the building, taxes, mortgage, interest, and so on), insurance, and depreciation of both plant and equipment through use and obsolescence.

Should one also include interest on the investment? It is by some contended that this interest should be added because capital has been tied up, and capital always must have its reward. I am against any such inclusion. One does not enter a manufacturing or jobbing business to make a banker's interest; if only 4 or 5% be wanted, why risk capital in commerce when it might be invested without speculative danger in government bonds?

One enters business to make a greater profit than is possible through banking, and therefore, why not view the profit on the investment as a whole, instead of first making a deduction of a banker's profit and then counting the increment above that profit as manufacturing profit?

The practice is illogical from all points and it may be positively bad. Thrusting a figure which is not cost into the

cost of the product obscures in the final figures that which is profit and that which is cost. Only profit should be considered, the profit on the sales and not the profit on the money. Charging interest on the investment can be a serious handicap.

I recall one company which operated in an ill-adapted factory; it had too much idle space in the building, and too much idle land about the plant. In addition, part of the equipment had become obsolete and was used only on special orders for discarded lines. The management charged interest on the total investment and weighted the finished goods with a cost of much which did not in any way contribute to manufacture. Thus they penalized their production. It is easily conceivable that the interest on unused capital expenditures might be the largest single item in the cost of the finished product, and possibly raise its cost to such a point that it would be unsalable.

Another bad feature is that it is generally difficult and sometimes impossible to determine accurately the amount of capital which has gone into a company which has been operating for a number of years. The new investments are likely to have become confused with the renewals and replacements. Thus we cannot tell whether the figure which we call investment is more than an approximation of the actual investment. That is a practical difficulty in addition to the violation of the sound principle that today's management should not be burdened with the expense of the past.

But some manufacturers say:

"I want to get the interest on my investment into the goods themselves, and then I shall know that, even if I sell at apparent cost, I am still getting a return on my money."

This is equivalent to putting one's money into several pockets as a safeguard against spending too much in any one place, and it is not business. Let the cost figure be actual cost, then regulate the selling price accordingly.

Departmental Basis for Costs. The fixed charges are paid in bulk—taxes once a year, mortgage interest generally twice a year, and so on. They are paid upon the property as a whole. The depreciation of plant and equipment goes on always and is a bookkeeping charge reduced to an annual basis. In Chapter XIII we took up the methods for arriving at depreciation and of accounting for the value of the equipment. Let us assume therefore that we either have books which give us the present

worth of the plant and equipment or have made a fresh, detailed appraisement. The maps and diagrams show our factory and the positions of all equipment.

Next we divide the plant into "departments." For cost purposes, departments are not enclosures surrounded by four walls. A dozen departments may be on the one floor. Their proper division is one of the most important fundamentals of cost finding according to the best practice.

A department may be large or small and it is determined by the rule: Group machines of like values and operation costs for power and labor or find labor divisions in which the wages of all the workers are approximately on the same scale.

Thus a department may be large or small; it may take in a whole building or a single expensive machine; but, in any event, the divisions do not necessarily correspond with the common factory divisions such as foundry, machine shop, and assembling room. The ideal department has machines, each of the same value and operating cost, and all the employees therein receive wages on identical rates.

Such departmental divisions sound intricate and in some cases may be quite complex; but, for reasons which will more fully appear later in this chapter, the scientific grouping of units is commonly the best starting point in a distribution of overhead expense. Other methods obtain and, according to the state of facts, they may be accurate. But, in any event, we must divide the factory into departments of some kind and on some basis which may or may not have anything to do with physical layout.

The Departmental Cost Sheet. Form 84 shows a departmental cost sheet. On it are listed the departments and also the various items of fixed expense. It is almost self-explanatory. If the buildings have radical differences in construction or in cost of construction, so that some gather more overhead than others, then special sheets are set up for such buildings; otherwise the fixed charges are distributed according to the floor space occupied by the department.

In calculating the percentages, the building tax, insurance and depreciation are taken from the figures of the previous year, because these items seldom change. If, however, the insurance or tax rate does change during the year, the adjustment is made at once and the addition distributed through the remaining months of the year. The amount, when so subdivided, is small,

and though it is not entirely accurate to distribute an increase over 6 months which belongs to 12 months, the difference in the net result eventually obtained is so slight that it may be disregarded. In many accounting problems the question arises as to whether or not the attainment of absolute accuracy is not, in itself, more expensive than a slight error. A too avid pursuit of niceties and trivialities has wrecked many a cost system.

DISTRIBUTION OF FIXED CHARGES

Departments	Items Divided on Basis of Floor Space Occupied							Items Divided on Basis of Investment						Figures Used in Expense Analyses	
	Feet Floor Space Occupied	% to Total	Building Taxes	Building Insurance	Building Depreciation		Total	Value Machinery	% to Total Value	Machinery Insurance	Machine Depreciation		Total	Grand Total per Year	Total Chargeable per Month

Form 84

The total of each of the elements distributed through the departments is translated into percentages, and we have for each department the share which it must bear of the charges on capital investment other than equipment or machinery.

The machine values and depreciation figures are obtained from the plant register, or appraised, and may be grouped in subsidiary records and carried to the department sheet.

We have now the total annual sums which each department must bear for fixed charges, including building depreciation and also the annual machine depreciations and insurance. Divide the annual total by 12 and the result is the monthly burden for the department—the share of what is inclusively known as fixed factory charge. This is the share of expense which the department must bear regardless of whether or not it operated —it is a kind of license fee for existence.

If the machinery be large and expensive, as in a paper mill, the charges may be collected directly on the machines (Form 85.)

The most convenient calendar division or period for ascertaining costs is the month. But if the payroll comes every week, the monthly division of costs will not correspond with the wage payments without laborious adjustment. To overcome

this, every third month is given an extra week—that is, the year is divided into four quarters of 13 weeks each, so that the cost divisions will meet the fiscal divisions. Another method is to pay four times a month—on the eighth day, the fifteenth, the twenty-third, and the last day; a more preferable way is to pay on the fifteenth and the last day of the month. The best plan of all is to have a monthly pay day—it saves much clerical labor and requires no artificial divisions—but what with laws and customs, the ideal method cannot often be followed.

DIVISION OF EQUIPMENT INSURANCE AND DEPRECIATION WITHIN DEPARTMENTS

Department	Machines (Owned)	Machine No.	Machine Value	% to Total	Yearly Charge to Each Machine	Charge per 2 Weeks
Department Total						

Form 85

Collecting Contributory and Production Expense. The expenses in the contributory and productive departments are collected on sheets in such a manner that the very gathering of the facts attracts attention to possible economies.

The means is the expense analysis (Forms 86 to 90 inclusive), which was, I believe, devised in its original form by Mr. Benjamin A. Franklin, a former member of my company. Each department takes a separate sheet. Four columns are provided for each month in order to present comparisons between the current month and period and the same month and period of the previous year. The sheets are bound in a looseleaf book. Slip sheets permit a continuation of the posting without new master entries.

I know of no records in cost accounting which are of such extraordinary value as the expense analysis. They form a month to month guide for the executive of exactly what is going

on within his plant. Some executives use them as a theologian uses a Bible. I know of one man who carries the records home at the end of every month, and returns from their perusal loaded with ideas for betterment. It is seldom a month passes in which he does not find where he can make an improvement. It is impossible for wastes long to continue in any concern which conscientiously keeps and uses an analysis of expense.

A separate sheet should be provided for each department, or if very exact comparisons are needed, for divisions of a department—the whole idea being to get at the details of expense. Cost accounting will not be of any material benefit unless the various items of cost may be run to earth, and it is this which is possible through the expense analysis. Its compilation does not mean extra clerical work, but, on the contrary, gives most valuable information as an incident to cost finding.

Making Up the Expense Analysis. The first entries on the analysis are of the items of direct or controllable expense—expenses which depend upon the amount of business done. To the total of these is added the uncontrollable expense, that is, the share of fixed charges, of administrative costs, or whatever divisions may be selected. Sometimes taxes, insurance, and so forth, are carried to the sheet in detail, or again they are brought over in summary from the subsidiary fixed charge sheets. The procedure is entirely a matter of personal preference provided that all of the charges which belong to the department get there.

If the sheet covers a production department the final total cost is divided by the units produced in that department, or by the operating hours, or by some other divisor which indicates the extent of the operations, so that we may have an operating cost per unit or per hour in the department. Thus we have in each month a unit figure for comparison. If that figure is normal it is not necessary to go back into the details, but if it be abnormal then not only is study promoted, but the facts are at hand.

The time-saving feature of the reduction to operating cost per unit is notable. The executive, if he does not care to examine the entire collection of sheets contained in the expense analysis, may have taken off for himself a table of unit operating costs, and thus at a glance can decide if any department needs attention.

Expenses grow insidiously. If one has monthly expenses only in gross and without percentages for comparison, a large number of items will pass by unnoticed.

EXPENSE ANALYSIS

MACHINE SHOP	Monthly Appropriation	Month of 19__	Month of 19__	Year to Date 19__	Year to Date 19__

EXPENSE ANALYSIS

TUBE, PICKLE AND ANNEAL	Monthly Appropriation	Month of 19__	Month of 19__	Year to Date 19__	Year to Date 19__

EXPENSE ANALYSIS

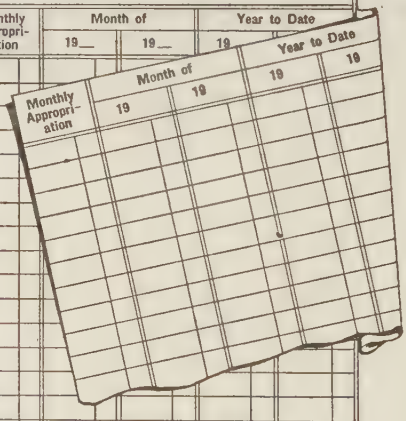
MANUFACTURING OVERHEAD	Monthly Appropriation	Month of 19__	Month of 19__	Year to Date 19__	Year to Date 19__

EXPENSE ANALYSIS

GENERAL FACTORY EXPENSE	Monthly Appropriation	Month of 19__	Month of 19__	Year to Date 19__	Year to Date 19__

EXPENSE ANALYSIS

OFFICE EXPENSE	Monthly Appropriation	Month of 19__	Month of 19__	Year to Date 19__	Year to Date 19__
Share of Executive Salaries					
Share of Clerical Salaries					
Office Supplies					
Telephone and Telegraph					
Stationery and Printing					
Janitor Service					
And so forth					
TOTAL DIRECT OFFICE EXPENSE					
Share of Taxes					
Share of Insurance					
Share of Depreciation					
TOTAL INDIRECT OFFICE EXPENSE					
TOTAL OFFICE EXPENSE					
(carried to manufacturing overhead)					



FORMS 86-90: Expense analysis sheets such as shown on this page are of great value in calling attention to possible economies. They form a month to month guide of what is going on within the plant. It is impossible for wastes to continue when they are conscientiously used.

Analysis of Power Expense. Take the specific application of the expense analysis to one of the most troublesome of the contributory departments—the power house. Not a few executives are in such despair over the vagaries of the power plant that they have come to regard it hopelessly insofar as regulation is concerned. But a very close check may be had through the analysis. Here is the procedure:

First we list on the expense analysis the elements of expense:

coal	coal handling
inward freight	oils
waste	repairs
replacements	engineers

firemen, and so on

The sum of these gives the total controllable expense. I use the word "controllable" to distinguish these expenditures from those which are put on a department through no action of its own, as:

Share of fixed charges	Share of general factory
Share of administrative	Share of office, and so on

They are entered on the sheet immediately following the total of the controllable expense. The sum of the controllable expense and the share of uncontrollable expense gives the total power expense. This is divided by the power developed to find the cost per horse-power. It does not convey much to say that the power department cost so much this month and so much that month, because the variable volume of the work may make any increase in expense entirely legitimate—we must generate additional power to meet the demands of larger business. But when you have a "per horse-power" figure, comparable with previous figures, any unnecessary expense will instantly become prominent. If the horse-power rate is high and your coal consumption is also abnormal, the cause may be bad stoking, poor coal, or any one of a number of other things. Immediately you investigate to find the real cause.

There are few concerns having the benefit of this close analysis which do not now buy their coal on the basis of thermal units instead of on the old ton plan. One coal may cost twice as much, bulk for bulk, as another, but under certain conditions it may really be much cheaper because it gives more heat and involves less handling both of coal and ashes.

The total power is distributed on a percentage basis to the various departments. Where electrical transmission is used, the amount consumed can be measured accurately by meter. Steam is harder to measure and we cannot do much better than a fairly accurate estimate when the steam is translated into power and transmitted through belts and shafting. Steam that is taken for drying or heating can, of course, be easily measured.

The steam power apportionment is conveniently, but not accurately, found by calculating the friction loads of the machines in each cost department and then testing the result at the noon hour or some other time when the factory is idle, by running only that department and observing the power consumption indicator at the engine. This is an arbitrary division, for the power absorbed on the cutting or working load is much greater. The actual power consumed under load conditions can be found, if desired, by running departments alone, as before, but at cutting instead of friction load.

The intent of this procedure is to carry the power expense directly to a department on the basis of actual consumption and thus to dodge the objectionable percentage distribution.

Form 91, shown on Insert XI, will be found helpful in ascertaining the efficiency of your power generation. It is the summarization of the power return in a large number of factories under the conditions noted; the calculations can be used as standards against which to compare your own performance—in exactly the same method as was used in comparing the actual labor with the standard in a former chapter.

Expense Divisions. In the lower form on page 250 is an analysis of office expense to which has been added a valuable column—"monthly appropriation." In concerns which plan a budget for the year (a budget should be prepared whenever practicable) it is essential to know each month how the amount planned to be spent compared with the amount actually spent.

It would not be worth while for me to go through all of the various business divisions and show for each of them an expense analysis. The subdivisions are natural, and the itemization may be carried forward to any desired degree. Here again the rule is common sense. There are no arbitrary divisions, and it is very seldom that the factory head cannot determine for himself the most desirable divisions to suit a particular case. But, if you are in doubt, divide rather than consolidate.

Showing the Comparative Cost of Steam Power

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	A	Q	R	S	T	U	V	W	X
						$g=\frac{fc}{30}$		$j=\frac{g\times 22 \text{ or } 25}{500}$	$j=\frac{8.128}{500}+5.50$	$k=h+i+j$	$l=1.085k$		$n=\frac{f}{m}$	$o=\frac{11cn}{2240}$	$p=\frac{21cn}{2240}$		$q=\frac{2\times 308}{500}o$	$r=\frac{3\times 308}{500}o$	$s=\frac{4\times 308}{500}o$	$t=\frac{5\times 308}{500}o$	$u=\frac{2\times 365}{500}p$	$v=\frac{3\times 365}{500}p$	$w=\frac{4\times 365}{500}p$	$x=\frac{5\times 365}{500}p$
DESTINATION ~	TYPE OF ENGINE	INDICATED HORSE-POWER	STEAM PRESSURE BY GAGE	FEED WATER PER INDICATED HORSE-POWER PER HOUR		COMMERCIAL HORSE-POWER	APPROXIMATE COST PER NET HORSE-POWER OF					WATER EVAPORATED PER POUND OF COAL	COAL PER INDICATED HORSE-POWER PER HOUR	TONS OF COAL (or 2240 LBS.) PER DAY WITH AVERAGE COAL FOR ONE HOUR ADDED FOR STARTING AND STOPPING FIRES			COST OF COAL PER HORSE-POWER PER YEAR .							
	NAME	REQUIRED TO PRODUCE 500 HORSE-POWER NET ON HIGH SPEED ENGINE SHAFT, OR JACK SHAFT OF LOW SPEED ENGINE		PROBABLE LIMITS	ASSUMED FOR COMPARISON	OF BOILERS ON BASIS THAT ONE COMMERCIAL HORSE-POWER REQUIRES THE EVAPORATION OF 30 POUNDS OF WATER AT 10 LBS. PRESSURE FROM TEMPERATURE OF 200°	ENGINES ERECTED AND CONNECTED READY FOR OPERATION	BOILERS ERECTED AND CONNECTED READY FOR OPERATION ON BASIS OF $22 PER COMMERCIAL HORSE-POWER FOR STEAM PRESSURE OF 125 LBS, OR UNDER AND $25 FOR HIGHER PRESSURES.	BUILDINGS AND CHIMNEY	TOTAL OF THE THREE PREVIOUS COLUMNS	TOTAL WITH 8½% FOR INSPECTION AND INTEREST DURING CONSTRUCTION			FOR 10 WORKING HOURS PER DAY	FOR 20 WORKING HOURS PER DAY		ON BASIS OF 308 DAYS OF 10 HOURS EACH AND COST OF COAL PER TON OF 2,240 POUNDS DELIVERED AS FOLLOWS:				ON BASIS OF 365 DAYS OF 20 HOURS EACH AND COST OF COAL PER TON OF 2,240 LBS. DELIVERED AS FOLLOWS:			
																	$2	$3	$4	$5	$2	$3	$4	$5
		I.H.P.	LBS. PER SQ. IN.	LBS.	LBS.	C.H.P	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	LBS.	LBS.	TONS	TONS		DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS
A	SIMPLE HIGH SPEED NON-CONDENSING	542	100-120	35-26	33	596	17.50	26.22	15.18	58.90	63.91	8.5	3.882	10.332	19.725	A	12.73	19.09	25.46	31.82	28.80	43.20	57.60	72.00
B	" LOW " "	556	100-120	32-24	29	537	25.00	23.63	14.22	62.85	68.19	8.5	3.412	9.316	17.785	B	11.48	17.22	22.96	28.69	25.97	38.95	51.93	64.92
C	COMPOUND HIGH " "	542	100-120	30-22	26	470	21.00	20.68	13.13	54.11	59.47	8.5	3.059	8.142	15.544	C	10.03	15.05	20.06	25.08	22.69	34.04	45.39	56.74
D	SPECIAL TRIPLE COMPOUND HIGH SPEED NON-CONDENSING	542	150-170	27-21	24	434	26.08	21.70	12.55	60.25	65.37	8.5	2.824	7.516	14.344	D	9.26	13.89	18.52	23.15	20.95	31.42	41.90	52.37
E	SIMPLE HIGH SPEED CONDENSING	542	100-120	25-19	22	397	24.60	17.47	11.95	50.42	54.71	8.5	2.588	6.888	13.150	E	8.49	12.73	16.97	21.22	19.20	28.80	38.40	48.00
F	" LOW " "	556	100-120	24-18	20	371	27.00	16.32	11.53	54.85	59.51	8.5	2.353	6.425	12.265	F	7.92	11.87	15.83	19.79	17.91	26.86	35.81	44.77
G	COMPOUND HIGH " "	542	100-120	24-16	20	361	24.50	15.88	11.36	51.74	56.14	8.5	2.353	6.263	11.956	G	7.72	11.57	15.43	19.29	17.46	26.18	34.91	43.64
H	" LOW " "	556	110-125	20-12¾	18	334	30.00	14.70	10.92	55.62	60.35	8.5	2 118	5.783	11.040	H	7.13	10.69	14.25	17.51	16.12	24.18	32.24	40.30
I	SPECIAL TRIPLE COMPOUND HIGH SPEED CONDENSING	542	150-170	23-14	17	307	29.00	15.35	10.49	59.84	59.50	8.5	2.000	5.323	10.163	I	6.56	9.84	13.12	16.40	14.84	22.26	29.68	37.10
J	TRIPLE COMPOUND LOW SPEED CONDENSING	556	150-170	18-12¾	16	297	37.50	14.85	10.32	62.67	68.00	8.5	1.882	5.139	9.810	J	6.33	9.50	12.66	15.83	14.32	21.48	28.65	35.81
K	" " " "	556	160-170	17-12½	15	278	45.00	13.90	8.35	67.25	78.97	8.5	1.765	4.819	9.200	K	5.94	8.91	11.87	14.84	13.43	20.15	26.86	33.58
L	DO. FOR PROBABLE MAXIMUM RESULTS	556	160-170	16-12⅞	14	259	45.00	12.95	8.15	66.10	71.72	9.5	1.474	4.025	7.683	L	4.96	7.44	9.92	12.40	11.22	16.83	22.43	38.04

Developed in Engines of Different Types—

Y. $y=\frac{4380\times48\text{ or }41}{500}$	Z. $z=\frac{7300\times48\text{ or }41}{500}$	A. $A=\frac{(.008\frac{8}{9}+3)\times308}{500}$	B. $B=\frac{(.008\frac{8}{9}+3)\times365\times2}{500}$	C $C=0.05\,K$	D $D=\frac{L}{10}$	E. $E=y+A+C+D$	F. $F=z+B+C+D$	A	G $G=q+E$	H $H=r+E$	I $I=s+E$	J $J=t+E$	K $K=u+F$	L $L=v+F$	M $M=w+F$	N $N=x+F$	O $O=9+y+A+\frac{3}{2}D+C+l$	P $P=r+y+A+\frac{3}{2}D+C+l$	Q $Q=s+y+A+\frac{3}{2}D+C+l$	R $R=t+y+A+\frac{3}{2}D+C+l$	S $S=u+z+B+\frac{3}{2}D+C+l$	T $T=v+z+B+\frac{3}{2}D+C+l$	U $U=w+z+B+\frac{3}{2}D+C+l$	V $V=x+z+B+\frac{3}{2}D+C+l$	A
COST PER NET HORSE-POWER PER YEAR OF SUPPLIES & AVERAGE REPAIRS		COST PER NET HORSE-POWER PER YEAR OF WAGES		COST OF INSURANCE ½%; OF TAXES 1.2%; OF RENEWALS 3.3⅓; TOTAL 5% OF COST IN COLUMN K	INTEREST OR DIVIDENDS SAY 10% OF COSTS IN COLUMN L	TOTAL COST PER HORSE-POWER PER YEAR OF ALL OPERATING, CURRENT, AND INTEREST EXPENDITURE EXCEPT COAL			TOTAL COST PER NET HORSE-POWER PER YEAR ON BASIS OF								TOTAL COST PER NET HORSE-POWER PER YEAR FOR ELECTRIC R.R. AND OTHER VARIABLE WORK REQUIRING 50% EXTRA PLANT TO OBTAIN ON THE AVERAGE 500 H P., INSURANCE INCREASED TO 1½%, ENGINE RENEWALS TO 4% AND BOILER RENEWALS TO 5%								
									308 DAYS OF 10 HOURS EACH AND COST OF COAL PER TON OF 2,240 LBS AS FOLLOWS:				365 DAYS OF 20 HOURS EACH AND COST OF COAL PER TON OF 2,240 LBS AS FOLLOWS:				FOR 308 DAYS OF 10 HOURS EACH AND COST OF COAL PER TON OF 2,240 LBS AS FOLLOWS:				FOR 365 DAYS OF 20 HOURS EACH, AND COST OF COAL PER TON OF 2,240 LBS AS FOLLOWS:				
308 DAYS OF 10 HOURS EACH	365 DAYS OF 20 HOURS EACH	308 DAYS OF 10 HOURS EACH	365 DAYS OF 20 HOURS EACH			308 DAYS OF 10 HOURS EACH	365 DAYS OF 20 HOURS EACH																		
DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS		$2	$3	$4	$5	$2	$3	$4	$5	$2	$3	$4	$5	$2	$3	$4	$5	
									DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	
2.96	7.01	4.78	11 34	2.95	6.39	17.08	27.69	A	29.81	36.17	42.54	48.90	56.49	70.89	85.29	99.69	35.45	41.82	48.19	54.55	62.14	76.54	90.94	105.34	A
2.53	5.99	4.49	10.65	3.14	6.82	16.98	26.60	B	28.46	34.20	39.94	45 67	52 57	65.55	78.53	91.52	34.55	40 28	46.02	51.75	58.65	71.64	84.61	97.60	B
2.96	7.01	4.16	9.87	2.74	5.95	15.81	25.57	C	25.84	30.86	35.87	40.89	48.26	59 61	70.96	82.31	31.10	36.12	41.13	46.15	53.52	64.87	76.22	87 57	C
2.96	7.01	3.99	9.45	3.01	6.54	16.50	26.01	D	25.76	30 39	35.02	39.65	46.96	57.43	67.91	78.38	31.65	36.28	40.91	45.54	52.85	63.32	73.80	84.27	D
2.96	7.01	3.81	9.02	2.52	5.47	14.76	24.02	E	23.25	27.49	31.73	35.98	43.22	52.82	62.42	72.02	28.08	32.32	36.56	40.81	48.05	57.65	67.25	76.85	E
2.53	5.99	3.68	8.71	2.74	5.95	14.90	23.39	F	22.82	26.77	30.73	34.69	41.30	50.25	59.20	68.16	28.12	32.07	36.03	39.99	46.60	55.55	64.50	73.46	F
2.96	7.01	3.63	8.60	2.59	5.61	14.79	23.81	G	22.51	26.36	30.22	34.08	41.27	49.99	58 72	67.45	27.48	31 33	35.19	39.05	46.24	54.96	63.69	72.42	G
2.53	5.99	3.49	8.28	2.78	6.04	14.84	23.09	H	21.97	25.53	29.09	32.65	39.21	47.27	55 33	63.39	27.36	30.92	34.48	38.04	44.60	52.66	60.72	68.78	H
2.96	7.01	3.36	7 97	2.74	5.95	15 01	23.67	I	21.57	24.85	28.13	31.41	38.51	45.93	53.35	60.77	26.92	30.20	33.48	36.76	43.86	51.28	58.70	66.12	I
2.53	5.99	3.31	7 85	3.13	6.80	15.77	23.77	J	22.10	25.27	28.43	31.60	38.09	45.25	52 42	59.58	28.27	31.44	34.60	37.77	44.26	51.42	58.59	65.75	J
2.53	5.99	3.22	7.63	3.36	7.30	16.41	24.28	K	22.35	25.32	28.28	31.25	37.71	44.43	51 14	57.86	29.10	32.07	35.03	38.00	44.46	51.18	57.89	64.61	K
2.53	5 99	3 74	8 87	3.31	7.17	16 75	25.34	L	21.71	24.19	26.67	29.15	36.56	42 17	47 77	53 38	28.33	30.81	33.29	35.77	43.18	48.79	54.39	60.00	L

For instance, the receiving room and the stock room should be carried separately, and the total taken over to the general factory expense sheet. The shipping and packing room is carried as a unit, and I prefer to take this total to selling expense, although sometimes it is carried into general factory expense. The expense of the packing depends upon the district in which the goods are being delivered, and the selection of this district is with the sales force and not with the factory. The salaries of the personal secretary or clerks of the executives go to the same charge as the salaries of the executives themselves. These clerks are the tools of the administrators and as such the cost of their services should rightfully be borne by the same sources.

The Separation of Expense. The portion of the administrative expense devoted to production goes to administrative and general factory expense. That which concerns itself with the sale of the product naturally goes into the selling expense. The non-productive labor, if it works within a department, is charged to that department, but otherwise becomes part of the general factory expense.

In the productive department we should have the divisions of foremen, non-productive labor, idle hours, supplies, repairs to dies, repairs to machinery, and so on as the situation requires. Each month the amount to each item would be placed on the expense analysis beside the amount of the previous month, and a glance would show if any of these were large or out of proportion.

The number of economies which may be effected by these comparisons is astounding. I found in the plating room of one plant that about $75 a month was being spent for rubber gloves. These gloves cost $2 or $3 a pair, and were being used by the workers in the acid tanks. The slightest pinhole made them valueless. The installation of a cheap vulcanizer permitted the torn gloves to be repaired and $600 a year was saved on this apparently trivial item. In another plant lubricating oil was used in enormous quantities, and no effort had been made for its reclamation. A $75 extractor here saved over $2,000 a year.

In a shipping room the business had dropped down practically one half, but until the expense analysis came through the executives had not realized that they were continuing the old labor quota in full. On investigation it turned up that eight of the men had nothing to do.

The thought behind the expense analysis is the obtaining of the correct relations of expenses. Have the items tabulated for comparisons by months, and then arrange them in percentage form, so that production and expenses will be related. The increase in expense will be fully intelligible only when placed on a percentage basis, so that it may be ascertained whether the expense is large because of bad management or whether it is legitimately large owning to increased production.

Apportioning the Expense. Thus far the gathering of expense has been a mere tabulation except that it has been indicated that certain departments called "contributory" exist to aid other departments called "productive." In the case of the power plant, we have already given a method for distributing its cost to the departments which actually consume the power. It is plain that the department using power should be charged with its cost. The division is logical, and thus the charges for power have all been absorbed by division into other departments and the expense analysis of the power plant becomes a record subsidiary to the records of the production departments.

The fixed charges have also been distributed among the various departments, contributory and productive, on the ratio of the square feet occupied by each department. The items of fixed charge have therefore been all accounted for and so pass out of our present reckoning.

We now have a set of expense analysis sheets which have on them all expenses directly incurred by the departments and also the proper shares of fixed charges. The sum of all the charges contained on these sheets would be the total overhead expense of the plant.

But of the departments thus listed, some are contributory and some are productive. We are on our way eventually to get the charges into the goods which we manufacture; the contributory departments do not manufacture, therefore their charges must somehow be merged into the productive departments unless the charges do not concern production. Some were incurred by the sales force in marketing the product.

We therefore open two new accounts which have been mentioned but not described—"administration and general factory expense" and "selling expense." (Either account may be carried as noted or in two or more divisions.) The expenses of the several contributory departments are carried to one or the other of

these accounts according to whether the expense is incident to manufacturing or to selling. "Selling expense" will be treated in the next chapter.

The next problem is to distribute the total of the "administrative and general factory expense" to the productive departments.

We have had little opportunity so far to get into trouble with costs, as they have been directly credited and charged at their points of origin, and the only distributions—fixed charges and power—have been logical. Up to this point almost any factory or any kind of business may follow similar procedures—in fact the foregoing accounting is common to practically all cost systems of merit. It is in the distribution that business peculiarities begin to show themselves, and from this point forward nearly every business stands on its own feet and takes that which is best fitted to its needs.

One might imagine that the overhead could be distributed almost without a second thought. If the expense amounts to $100,000 and the total number of various different kinds of articles produced is 100,000, then is it not proper to charge $1 of overhead to each article?

Undoubtedly this would dispose of the whole overhead expense, but it would not give costs; for it would not go back into the process of manufacturing to determine exactly how much overhead was consumed in each department and in each operation which contributed to the finished article. As has been said many times before in this volume, accounting is useful only for the purpose of analysis. Lump sums and single figures give little help, for seldom, if ever, do they tell where, how, or why an economy may be effected.

False Methods of Distribution. If, in the case just cited, only one variety of article were produced, and that by means of a series of invariable operations, then the above distribution would be entirely accurate. We should have already on the departmental expense analysis, the controllable expenses; the department is not responsible for the uncontrollable expense, and it serves no good purpose to distribute it to a department if the uniform character of the product is such that it can take it directly by division. In fact the method is ideal, but seldom possible. Few concerns produce only a single article and always by the same series of operations. If the same percentage of

expense is added to each unit of production regardless of its manufacturing career, then undoubtedly too much would be charged to some and too little to others.

Unless the sales prices were so far above cost prices that the profit could be had anyhow, undoubtedly the articles, to which sufficient overhead had not been charged, would be sold at only a slight profit or even at a loss, while those which had been given too much overhead would be priced so high that possibly they would scarcely be sold at all. In such a circumstance the concern would undoubtedly lose money on the year's operations; they would not charge enough for part of their product and too much for the remainder. One of the articles, selling at a price based on the cost of $3, would actually be costing $4, while others on a cost basis of $3 would be really costing but $2. Such a cost system would be worse than useless.

The Pound or Yard Basis. Why not then distribute on the pound or yard basis? If the mere number of articles produced is not a safe divisor of the manufacturing expense, will it not be proper to charge the pound or yard of finished material? Not a few factories have such methods. It is quite common to divide the overhead equally among the main productive departments and then put it into the article on so much per pound or yard. The results are dangerously misleading figures.

Take an article which goes through three departments—the foundry, the machine shop, and the assembly room. In the foundry very little power will be used, because about the only machines absorbing power are the crane, sandblast, and grinding wheels. Likewise the machine expense will be slight. The machine shop, on the contrary, will probably absorb most of the power furnished to the entire establishment. Its power and machine charges will be very large. In the assembly room the big cost will be labor. But little equipment is needed and consequently only a slight amount of power is absorbed.

If we should divide the power equally among these three departments, the cost per article in the foundry and in the assembling room would be unduly high, and in the machine shop would be ridiculously low.

Take an article on the pound basis. Follow the course of a big, rough casting such as an engine bed, which may weigh a ton or more. Labor cost in the foundry will be slight because the mold is a simple one. But beside it are a large number of

small castings of intricate design. Where the ton of metal which went into the engine bed needed almost no labor, the small castings may require an enormous amount and may be a long time in the making. The engine bed will be in the machine shop for no more than two or three days, while the small parts, using little metal but great labor, may remain for as many weeks.

Any system which apportions costs on the pound will overload the engine bed and make it appear that the small castings are being produced at much less than their actual cost. The time which an article takes while being processed in traveling through a department is an important factor. When these parts reach the machine shop the engine bed may need nothing but a few holes bored into it, while the small castings may have to be machined to a thousandth part of an inch in order to register with another part.

Take textiles on the yard basis. One finely woven fabric may take three times as long to produce as a coarse fabric. On the yard plan the manufacturer would give each an equal overhead, but the fine fabric really has three times the overhead of the coarse, for it has taken up three times as much of the expense. The result would be that the coarse fabric would probably be sold above its proper price while the fine fabric might easily be sold for less than its actual cost.

Or take another instance on the "value of material" basis. The jeweler makes a gold ring and a silver ring. Certainly the gold ring should not be charged with, say, sixteen times as much overhead expense as the silver ring; but such approximately would be the result if the distribution guide were the value of the material.

In the adoption of any cost system it is most important to examine all of the phases in order to discover whether or not you are unconsciously charging in expense on the basis of values or weights rather than on the true basis of the actual absorption of expense by the article.

The charge to the material itself is easy and it is extraordinary how insidiously and in how many disguises the material method will creep in. Therefore this one rule may be deduced —never distribute expense with relation to the cost of the material, because the value of the material does not indicate the labor which may be required to turn it into a finished product.

The pound or the yard basis is also dangerous excepting under certain circumstances. For instance the sorting, scouring,

and carding of wool can properly be computed on the pound, and also the melting in a foundry, for one pound requires the same treatment as another and absorbs the same expense.

Charging Expense to Production. The manufacturing expense will range anywhere from 10% to 700% of the labor cost. Such wide variations may be found even in the same factory; it is the overhead which makes or breaks most concerns. They think that they are selling at a profit but, not having made proper allowances for overhead, they are actually selling at a loss. If the loss through improper distribution were evident, it would not be so serious, but it is the kind of charge which turns up only on the statement at the end of the period, although it may be presaged by the remark so frequently heard:

"I am making and selling at a reasonable profit, but I do not know where my profit is—the money is not in the bank and the accounts receivable are not on the books."

It is a thousand to one that the speaker has lost track of his overhead. How is it to be distributed?

The Productive Hour Method. The departments which contribute to the productive departments depend for their existence and the amount of their work upon the labor activity in the productive portions of the factory. In the payroll summaries given in Chapter VI the labor was reduced to productive hours. It is obvious that, with certain exceptions which will later be noted, the productive hour is the basis upon which the contributory expense should be distributed to the production department.

Each department has its percentage of productive hours as related to the total factory time. Therefore this percentage of productive hours to the whole is the percentage to be taken of the administrative and general factory expense, to find the share of such expense for that department. This share is then carried to the expense analysis as shown in the examples given.

Dividing into Production Centers. Much of the accuracy of this method of distribution will depend upon the wisdom of the departmental divisions. A department is a "production center"—a manufacturing division. It may be a whole building, or a single machine; the point is to find the unit of time and unit of occupancy. The time of the article in passing through a given process, and the amount of space which that process

requires in the general organization, are the two factors which determine the amount of overhead placed upon the product. Therefore one divides and subdivides until even units of the time and occupancy are discovered.

Consider a machine shop. Its tools vary widely, not only in first cost, but also in the amount of power and labor which each requires. The planers, the boring mills, the light lathes, the heavy lathes, each absorbs different degrees of expense. No one can deny that it costs more to operate a planer that may be worth thousands of dollars, than a light lathe whose value is measured by hundreds.

But what difference does it make how the expense is divided over any particular section of a store or factory if the expense must be paid anyway? It does not make a difference in the total result, but it does make a vast difference in the fixing of the cost of the product. Suppose the planer overhead is greater than the lathe overhead, should the articles that go through the lathe be loaded with the same cost as those that go through the planer?

The foregoing distribution is known as the "production center" plan. It will give the most accurate results in probably the greatest number of cases but it is by no means the only accurate method, nor is it universal. No one infallibly accurate method exists and I often find that several plans may well be used within the same plant.

Several other plans are in general use. Any one of them may be entirely satisfactory under one state of facts and entirely inaccurate under another.

Methods of Distributing Expense. 1. The "labor dollar" charge. The total departmental expense is apportioned as a percentage on the productive wages of the department. That is, the wage is counted as so much paid to the operator and, in figuring the cost, to that is added the fraction of overhead. From such distribution, one may gain a fair idea of the cost as a whole, but it is accurate in detail only when the wages paid are nearly the same throughout the department and also the machine costs are nearly alike. It will not work out well if high-priced and low-priced men are in the same department; for then, by adding a larger sum to the high than to the low, the lesser pay will appear to be the more economical—when actually it may be more expensive.

2. The "productive hour" method. Each department has a certain number of hours of production; we take the average number of such hours or the normal number and distribute the overhead to these hours instead of to the wages of the operatives. Thus the high wage man does not receive an undue share of the expense as under the labor hour. It is only accurate when the equipment within the department is all much alike. One of its strongest points is the deterrent effect upon permitting work to lag within a department—it makes for fast operation.

3. The "machine hour" plan. This amounts to making a department out of a machine. Each machine collects its own share of overhead expense and direct labor. The total charges are divided by the normal number of working hours of the machine and thus we have a figure which represents the per hour hire of the machine for operations. The work passing through practically pays a rental for the time which it consumes.

Choosing the Right Method. In a subject so empirical as costs it is not safe to dogmatize—it is not safe even to lay down rules for various classes of manufacturing. I could not give one best method for, say, woodworking plants, or machine shops, or textile mills; the exceptions are so numerous that harm might follow the adoption of any system based on rules regardless of circumstances. Instead of useless rules I shall give a number of instances bringing out points, some of which you have probably met in your own affairs.

Earlier in this chapter false returns arose from predicating costs in textile mills on the yard basis. The proper way to distribute the overhead in that loom room would have been on the machine hour—by dividing the expense chargeable to the room by the number of machines of similar type and then by average working hours. Let us say the expense reduces to 40 cents an hour per machine. If a yard goes through in one hour, a manufacturing expense of 40 cents is added to it, but if it takes only half an hour, the manufacturing expense is but 20 cents. Thus the larger amount of expense which the higher grade, finely woven cloth absorbs by taking a longer time in fabrication, appears on the cost sheet and prices may be accordingly regulated.

In the case of a department which is filled with a considerable number of identical machines, they may be classed together and the entire departmental overhead taken, but if the groups are operated under different supervision, divisions should be made

for the purpose of comparison. This is a convenient method, but it can be applied only when the units are uniform. The choice between the machine hour and the labor hour will depend largely upon the character of the factory. If labor predominates and the machinery is trivial, then undoubtedly the labor basis should be adopted; but if, on the contrary, as is usually the case in a machine shop, it is the machines that count, then the machine hour should be taken as a unit.

More frequently it will be well to consider, in the adopting of a unit, the various departments as separate factories, and to apply to each the basis of calculation which seems to fit the case.

When to Use the Labor Dollar Method. Only when wages in a department are fairly uniform, is it possible to divide the overhead on the labor dollar. Take an example from a garment factory. You will find girls working at 20 cents an hour without equipment, and skilled men such as cutters, at 40 cents an hour, also without equipment. If we distribute the overhead on the labor dollar, the man receiving 40 cents will absorb twice as much overhead as the girl at 20 cents, when, as a matter of fact, we know that the higher the wage the less supervision is required.

In the manufacture of paper everything depends upon the machinery. The preceding processes are all subsidiary, and also the succeeding. The machinery and the power that operates it are the vital points. Formerly the costs were calculated on an average cost per pound for the total production, regardless of the materials used or of the process involved in the production. But such a basis gives no clew as to actual cost; for a rough paper, taking as it does but a short time to pass through the machinery, will, on the pound basis, absorb a greater proportion of costs than the fine paper which will take three times as long in its manufacture. The coarse paper may be sold for too high a price and the fine paper at too low a price.

In fact, in one paper mill which I studied, the average cost per pound basis had resulted in all but one grade being sold less than cost. The price on the one profitable grade was so high that the factory was able to break even, although this high cost paper was not the one which the selling department had been pushing on the market. This is a case for an application of the machine hour cost. Experiments have shown that there is a difference of as much as 300% in the time taken to make different

grades of paper. The actual length of time which the paper requires for its making is reflected in the final cost and the maker thus knows exactly how much overhead is to go on that particular grade, and therefore the resulting cost.

In a woodworking establishment the cost distribution is frequently founded on the productive labor. But a man running a planer deserves to be charged with a considerably greater overhead than a man, for instance, who is assembling. Here the best plan would be a combination of machine hours in certain departments and productive labor hours in others, according to whether the machinery or the labor predominates.

When Is a Machine Economical? With the development of automatic machinery the labor charge is not always the important one. For instance, a big machine that costs, say, $20,000 or $30,000 and may be operated by cheap, unskilled labor—the labor charge is insignificant—should be made a department in itself. This point is of particular importance, for otherwise one cannot judge of the machine as an investment, and it is a check on those fanatics who hold that it is always economical to substitute a machine for a man. When we include the total overhead on a machine, it will sometimes be found to be more costly than hand labor. Or, again, the machine may possess a capacity out of all proportion to the requirements.

A mere machine is nothing in itself. It is useful only if it saves expense. I recall a striking instance of one brilliant mechanical engineer who, with a single invention, revolutionized an entire industry. He constructed a machine which at a critical point in that particular industry did away with 90% of the human labor.

Afterward he embarked in business on his own account, and he used his inventive genius to supply machines for every possible operation. From a mechanical standard he was entirely successful, but it turned out that his new machines required just as many people to tend them and keep them in repair, as had before been employed on the operations. Where previously the men had done the work, now the machines did the work and the men tended them. The result was, of course, increased expense and therefore a loss.

I recall another case where a small bit of trucking had been easily cared for by one man. An automatic conveyor was installed and instead of one man to look after the whole job it then required

two men—one to load and the other to take off. A highly efficient machine which can be installed only at great expense may be used so seldom that if the expense be apportioned to it, its infrequent operations will be most costly. In some cases, where cost statistics are used, the factory takes in work for some of the special machinery at a low price simply to cut down the operating cost on the regular business.

Charging Overhead on Material. A striking case of the fallacy of permitting material values to enter into the distribution of overhead, came to me from a company manufacturing small articles out of brass bars and castings, and sheet steel. The recent enormous increase in the price of brass and other metals furnishes an unusual emphasis on the result that follows the computation of costs on the material.

The present price of the bar stock out of which a certain article is made, is about 35 cents a pound, whereas in normal years it has stood usually at about 15 cents. Below is shown the cost method at present in use as applied with the material at both prices.

Per 100	Brass at 15 cents		Brass at 35 cents		Increase	
Material	$3.15		$7.35		$4.20	
Plus 20%	.63	$3.78	1.47	$8.82	.84	$5.04
Labor	$0.43		$0.43		0.00	
Plus 25%	.11	.54	.11	.54	0.00	0.00
Total		$4.32		$9.36		$5.04
Plus 33⅓%		1.44		3.12		1.68
Total cost		$5.76		$12.48		$6.72

The 20% applied to materials is expected to cover miscellaneous supplies used around the plant; the 25% on labor is supposed to represent other indirect factory expenses; and 33⅓% is intended to cover the general administrative cost.

An analysis of these figures showed that while the material cost had increased $4.20, the total cost, computed in this manner, had gone up $6.72. In other words, the mere increase in the price of brass is made to result in an increased manufacturing cost of $2.52. The large amount of brass borings and turnings recovered, while charged into the foundry, is wholly neglected in computing the cost.

When properly figured, with a departmentalization of expense and an allowance for scrap, the costs at the two prices of brass are:

Per 100	Brass at 15 cents	Brass at 35 cents	Increase
Material	$1.99	$5.70	$3.71
Manufacturing cost	.74	.74	0.00
Total cost	$2.73	$6.44	$3.71

It will be seen that the former method gave erroneous results at both prices. This is because brass is expensive. The absurdity of the figures is shown by the following comparison which will serve as an excellent illustration.

Total Cost	Brass at 15 cents	Brass at 35 cents
Present method	$5.76	$12.48
Correct method	2.73	6.44

Total Cost	Brass at 15 cents	Brass at 35 cents
Present cost too high by	$3.03	$6.04
Present cost too high by	111%	94%

Getting Costs by Standardization. Where several sizes of an article go through the same process so that the single difference between one product and another is the time which it takes in the making, a short cut to costs may be had. The material costs are, of course, taken separately as has been explained in a previous chapter. The most popular article—the one which the factory makes in the greatest quantity—is taken as a standard, and its time of fabrication is carefully calculated. The standard time is fixed at 100. Suppose that this standard time of 100, which is only an abstract figure taken as a percentage basis, is actually 90 minutes.

Another product takes 120 minutes—that is one third longer—therefore its rating is 133. Another product requires 150 minutes or 60 minutes over standard—that is two thirds more, or expressed in terms of the standard, 167. A department turns out a quantity of these three units. We add the units according to the standard and divide into the overhead of the department. The result is the unit cost; the cost of any single article can be computed from its ratio to the standard cost.

The unit cost method can be used in figuring many production costs which would otherwise be hard to determine. It does away with the necessity of reporting time against individual articles or operations and has a large advantage in the easy check which it gives on the efficiency of production and of material consumption. A departmental excess in the use of either labor or material will instantly line up against the standard of what should have been used.

This method is not a substitute for the direct methods, and it cannot be used in most instances, for it is seldom possible to find a unit—never when the variety of product is great. But it is the unquestionable plan whenever a unit is feasible. The standard must be set accurately by expert time studies.

Ascertaining the Final Costs. Presuming that we now have some system fitted to our needs, the finding of the final manufacturing costs of the finished article, in the shipping room ready to go out on order, is easy. The fixed charges have been carried to the departmental expenses analysis, as well as the expenses of the contributory departments, each with its share of fixed charge, through the medium of the manufacturing expense analysis. On the sheet for the department have been gathered all of the items of overhead for that department. The total contains all the overhead on the work passing through the department.

This department total is distributed to the work on whatever plan has been adopted—by dividing by the productive hour, machine hour, labor dollar, or other means—and thus we have the extra charge to add to each hour of work or dollar of labor.

Upon the final cost card have already been collected the charges for material and direct labor, the overhead figures are then added, and the result is the final cost.

Handling Abnormal and Subnormal Conditions. I have spoken of the overhead as though it were fixed and immovable—as though the amount of work being done were always the same. We know of course that the business in hand varies constantly. What shall we do with the expenses when the plant is either extraordinarily busy or uncommonly dull? In the first case the expense will be distributed over a greater production and will therefore be less per unit, while in the second case the distribution will be over fewer articles and will consequently bear more heavily than before.

If one normally makes 1,000 articles a day and the overhead expense is calculated on that production; then if 2,000 articles are produced without an appreciable difference in the indirect expense, our article will have only one half as much of the overhead to bear as before. But if sales drop from 1,000 to 100, then the proportion of expense would be ten times the normal.

This is a question which rightly bothers business men. Resolve it into its elements. The costs are based on a certain

average output. If the plant has a greater demand for its products, credit is undoubtedly due to the cleverness and ingenuity of the marketing force. But if, on the other, it does not do a normal business, the blame should be placed on the selling organization. The productive side should not be expected to do the impossible, that is, to produce economically unless it has orders which will permit the maintaining of a fair average rate, which of course is quiet obvious.

The expense analysis gives the actual overhead in each period. It will be low in busy times and high in dull. Between these two limits we fix on a figure which we consider as normal—based neither on peak production nor on the minimum. This we call the "normal operating rate."

The normal operating rate for the departments or machines will vary in different plants and can be determined only after study of operating conditions. A further knowledge of conditions in other factories of the same industry should be a factor in setting the proper normal rate. Possessed of the actual and normal overhead rates, all costs should be figured using the normal department or machine rate of expense.

At times when the current overhead rate is above the normal, the excess amount should be debited to an "abnormal business account"; whereas when the contrary condition exists, the difference should be credited to the same account. When business is exceptionally good, a reserve is created which can at the end of any fiscal period be credited to surplus or carried as insurance against a future shrinkage.

The factory did not bring about the conditions and, under opposite cost accountancy, it will not be held responsible for them. Thus analyzed it seems ridiculous to hold the factory responsible for a panic in the money market, or a bad wheat crop or other national calamities. But that is precisely what many executives in the past have done, for they held that the productive side should bear its overhead charge regardless of the amount of work which it had on hand.

Take a case. Suppose the normal cost of an article is $10. The volume of orders so lessens that the manufacturing expense is 10% higher than normal. Thus the article costs $11 to manufacture. The selling price is only $10.50. It was not the factory's fault that more orders were not obtained, and therefore the cost should be maintained at $10 with the extra difference as an abnormal expense.

Suppose in the case above, the finished article was inventoried at its actual cost of $11. The sales price of that article was only $10.50. It cannot be worth more than the price it will bring. Therefore if the inventory carries a figure of $11, the statement at the end of the year may be inflated by the total of the finished goods, to such a figure that what was actually a loss will show as an apparent profit. No end of concerns have gone to the wall because they inventoried after such fashion.

The canny executive makes use of his cost figures to get business in dull seasons. Knowing his normal overhead and the production which brings it about, he can manipulate his prices so to attract buyers that the normal may be maintained. He may lose on average profits, but he earns expenses and keeps his organization intact and running; whereas a smaller volume at regular prices might become an actual loss through the jump in overhead.

That is, he determines, on sound data, the minimum sales price from which he can sell intelligently with the thought of making either a slight profit or of breaking even.

The facts obtained through a cost system have kept many a factory running when its competitors had to close down.

CHAPTER XIX

DETERMINING THE SELLING EXPENSE

IN the previous chapter we saw that the overhead expense was collected at various sources and eventually flowed into one or the other of two streams. The first was the administrative and general factory expense which has already been treated; the second is selling expense. Every expense which does not concern fabrication goes to selling.

The factory bears all expense until the product is at the door ready to be shipped, then the questions are those of salesmanship. The division is an obvious one, but, like most obvious things, it is neglected. It should be self-evident that efficient manufacturing cannot be carried on if inefficiency and wastes in the selling department are charged back into the cost of the product.

If you do not make money you want to know whether it is because you are a bad manufacturer or because you are a bad salesman. It is no part of this volume to take up the relative importance of good manufacturing and good selling. Personally I believe that goods well made and well designed for the market are two thirds sold, and that the importance of sales organizations has been considerably overrated.

I think, generally speaking, that the salaries of salesmen and particularly of sales managers are too high and that those of the factory executives are too low. I have never known a thoroughly bad product to be sold over any long period of time; and I have never known a thoroughly good product which did not have a ready sale. These remarks have nothing particularly to do with the subject of this chapter and I throw them in only for executive attention if it appears that the expense of bringing the product to the customer is inordinately high.

Collecting the Selling Expense. The total selling expense is derived from the expense analysis of the various subdivisions and is collated on a summary of expense analysis to which is

added the salary of the sales manager and the proper proportion of the fixed charges based upon the floor spaces actually occupied by selling divisions. This expense analysis is made up on precisely the same kind of sheet as in the preceding chapter where it was introduced. The subsidiary records are of the highest importance because, to reiterate, it is only through detailed analysis that economies are to be effected.

The subsidiary divisions may be as numerous and as detailed as one likes. The more common divisions are: (1) packing and shipping, (2) salesman expense and traveling, (3) office expenses, (4) advertising, (5) general or occasional selling expense.

If the concern has branch offices, the totals from the branch offices should be brought into the summary and the detailed analysis of each office kept by itself in much the same manner as that in the main office.

Divisions of Expense. The division of packing and shipping expense on a geographical basis, will often give illuminating figures; the expenses of this department should never be carried merely in bulk. You want to know the sections in which it is profitable to sell and also those in which it is unprofitable; and though circumstances may force you to sell in the unprofitable sections, you do not want to do so blindly. Very few concerns can profitably distribute all of their shipping and packing expenses over all territories, making the nearby point of sale bear the expense of the distant market.

The idea is that you should not only know the profit on your product as it stands ready at the factory door for shipment, but also your profit at the various points of sale. In the craze for securing a national market, in the pride of thinking that your product may be bought everywhere in the country, do not lose sight of the dollars and cents question—and you do if you do not segregate your shipments.

Rating Salesmen. In the expense analysis of the salesmen, many points of interest may be uncovered. Without a good cost system you cannot tell which are your good salesmen and which are your bad salesmen. The good salesman is not necessarily the man who turns in the biggest lot of orders, but the man who makes for you the greatest profit. Therefore, you must know your profit from each salesman.

To do this, give each salesman a separate line in the expense analysis so that you can compare his expense and commissions

from month to month, and from year to year. Then enter against each salesman the gross profit made on his sales, minus the expense of the salesman himself, minus the proportion of gross selling expense other than for salesmen. This will give the net worth of that salesman to you and also inform whether he is selling because of his personality or whether the goods are selling themselves, and he is merely acting as an intermediary. It will often be found that star salesmen owe their reputations to the goods and the territory rather than to themselves.

In determining the relative merits of Smith and Jones, look underneath the surface records to find if Smith, who apparently has a record three times as high as that of Jones, is not selling in a region which should really produce six instead of three times as much as the Jones territory.

For this comparison I divide the general selling expense (exclusive of the expenses and salaries of the salesmen themselves) by the number of salesmen. That is, if there are 20 men, each would take one twentieth of the expense. This is not strictly accurate, because all salesmen do not absorb the same portion of expense. The poor salesmen, like the poor workmen, usually take more supervision and therefore expense; but it is a more equitable arrangement than apportioning the expense on the amount of selling. Most sales managers will admit that it is less trouble to sell a $5,000 bill of goods than to wheedle out 50 $100 orders.

If, then, we should divide on the basis of gross sales, the man who got the big order would be penalized. Neither method of distribution is very satisfactory and, for purposes of comparison, it is often as well to stop the individual sales record with the expenses of the salesman himself. These figures will not then be the profit per salesman, and should not be so confused, but they will give a guide to relative efficiencies.

With a cost system you may arrange your commissions to salesmen upon a sliding scale which depends upon the profit made in each line and this is the only sensible basis.

The Place of Advertising Expense. In the expense analysis of advertising, carry each medium of advertising as a separate entry or, if the advertising be very extensive, set up a summary in which only the main heads, such as monthly magazines, weekly publications, trade papers, newspapers, circulars, sales letters, and so forth, appear; and then give a

subsidiary record to each division, exhibiting in detail not only the expenditures but, insofar as possible, the results. I know of no manner in which the exact value of advertising can be measured.

In sales letters and other mailed matter the replies give a fairly accurate figure, but in newspaper and periodical advertising, although devices for replies are frequent, these replies cannot be taken as a reliable indication of the value of the money which you have expended. The return coupon method and the "mention the magazine" method, or even the fake department idea (that is, asking the reader to address department 225J, there being no such department, and the symbol having been adopted merely to indicate the publication in which the advertisement appeared) all fall down with the better class of customer —the class one seeks.

The business man of today, if he sees something that he wants, makes a note of the name and usually dictates a letter. By the time he comes round to the dictation he has more than likely forgotten all about your elaborate department scheme, and, if he does remember where he saw the advertisement, he will certainly not bother to tell you. Of course, he will not use the coupon, and, by the way, only about one coupon in every thousand is considered of sufficient value by the advertiser to be made large enough to hold an ordinary name and address. The real value of advertising is what someone has called the "rain and sunshine value"—the repetitive bringing of your article to the attention of the reader through attractive copy.

If you have your advertising classified somewhat as I have suggested, you can regulate the expenditures according to your sales. I would suggest that all advertising be regulated on an empiric basis with the thought, however, always in mind, that the best and most permanent results from advertising are to be gained through long campaigns—that is, by making the name of your product so familiar to the reader that when he comes to buy a certain article, your name is instantly implied by the very mention of the article. Authorities agree that one of the highest purposes of advertising is to make your own name the synonym for a type of goods or service.

The other divisions of selling expense are plain enough. If your office costs too much in any one month, the expense analysis will demonstrate that fact and you can investigate; and so on through the various items.

It is always desirable to reduce the subsidiary expense account to a percentage of the total expense, and also to a percentage of the total selling expense. When these are tabulated you can grasp proportions of your expense.

Knowing your percentages, you have a basis for comparison, not only with what you think the expense ought to be, but with the performances of other concerns.

The Distribution of Expense. The distribution of selling expense to the product offers a slight difficulty. The usual method is to divide it on the gross dollar, and we thus have a figure for gross selling price, less so much per cent for selling expense. Back in the chapter on materials (Chapter XVI) on page 223, we had a case of the raw materials which went into process at a flat price and which came out in many different grades, all requiring different costs in manufacture and each with a different sales price. We were then up against deciding whether or not raw material charges should be on the raw volume or on the finished product, and it was shown that the best method was to charge the raw material in a ratio corresponding to the net profit on the sale price of the finished article.

Precisely the same principle may be, and I think should be, applied to the distribution of selling expense. That is, the article which brings in a manufacturing profit of $3 should carry three times the selling burden of that article on which there is only $1 profit. It is reasonable to suppose that an article which brings you a profit of $3 is three times as hard to sell as one with a profit of $1, for the less profit you seek the less competition you invite and therefore it should take three times as much selling expense to sell an article on which the profit is $3 as that on which only $1 profit is sought. Instant exceptions to this rule come to mind and therefore I shall say that it is not a rule—but a thought to be applied in the distribution of your selling expense.

A final point. Whenever possible, make direct rather than indirect selling charges. If you can so regulate your advertising, your salesmen, and other commonly indirect selling expenses, so that they apply only to a particular division, by all means do so. The direct charge is always more accurate than the indirect.

CHAPTER XX

TYING ALL THE COSTS INTO THE GENERAL ACCOUNTS

COST accountancy is the current recording of operations. We have considered it as a separate department of accountancy and thus one might think that the comprehensive recording of the activities of the business is divided into two distinct and apparently unconnected sections—the business accounts and the cost accounts. In fact they are connected.

The cost accounts fit into the business accounts at every point, and it is from the general books of the company that we gain a constant check on the cost figures. In the chapter on the trial balance (Chapter IX) and in the supplementary chapter on the statement of operation (Chapter XIV) we saw how retrospective costs could be made up from the historical accounts. We also saw that it was possible to bring those costs down to considerable detail, although not in sufficient detail for intensive cost study. The chief objection to the method was that we never knew how much anything cost until after taking a physical inventory of what we had in hand. Just as we could take the figures in the trial balance and from them calculate costs, we can also work from the other end—take the cost figures and reconstruct the trial balance, and thus absolutely check results.

It is necessary to check costs. Despite the confidence one may have of the accuracy of all the figures, some of the totals are based on estimates, and we cannot know if these are accurate without the agreement of an opposing record. No bookkeeping is complete unless each of its operations has a proof coming from an outside source. Otherwise no matter how complex are our books, we are following only the single entry system.

I have repeatedly said in the course of this volume that the accounts of a business are all correlated and that good accountancy will afford a complete interlocking exhibit of every phase of the business. Fitting the cost into the general books will now

make that statement good. In the earlier portions of this volume I have treated of all of the business accounts, and therefore here it will be necessary only to mention the accounts by name. I say that I have treated all of the accounts; it would, perhaps, be more accurate to say that I have treated all types of accounts. No general book on accounting could hope to exhibit every possible account division or to give every name by which that division may be known.

The function of the business accounts was to show, by the comparison of the asset accounts with the liability accounts, the exact condition of the enterprise. We saw that the critical figures in the ascertaining of condition were the inventory of material and supplies, of goods in process and finished goods and that the books afforded no clew to the value of these several items. The great objection to taking off a statement of condition at stated intervals was the necessity of an inventory, which, in a business of any size or complexity, might easily be a matter of considerable expense and inconvenience.

The cost system gives the missing figures. It tells what has become of the goods and of the labor, how and in what amount they have gone into goods in process or into finished goods, the amount which should be charged to the goods which have been sold, and thus we are now prepared to construct a statement of condition in any necessary detail and without inconvenience.

Checking the Costs into the General Books. The items thus obtained through the cost system check back into the general books; while we are taking the statement of condition, we are also checking the accuracy of the cost accounting.

How the two systems intertwine is graphically illustrated in the large chart given as Form 92, shown on Insert XII, which is folded separately and laid into the back of the book. From this chart you can discover where and how the various accounts interlock.

The general business has on its ledger a number of nominal accounts which are classified broadly as manufacturing accounts.

The materials account begins on the debit side with the inventory of stock on hand at the beginning of the period and continues with the posting of the cost of materials purchased from the charge register; the sum of the debits is the worth of the material on hand or that which we bought during the period. The material is taken out of stock by requisition; the total of the

requisitions should should be the amount of material which has gone into the work in hand. The total taken by adding the requisitions should equal the material charges from the job cards in the cost system. The amount so withdrawn is credited to the material account as going out to goods finished or in process, which account receives the amount as a debit.

Precisely the same procedure is followed in the supplies account, except that, instead of closing to goods finished or in process, the credit is to manufacturing expense, and manufacturing expense takes a debit in the like amount.

The productive or direct labor account takes its debit directly from the charge register; the credit is for the entire amount and is made to goods finished or in process because the labor has gone directly into the product; therefore goods finished or in process takes a debit.

The wages of non-productive labor follow a course similar to the supply account and reach the manufacturing expense account as a debit.

What Manufacturing Expense Is. Thus we have the account for the work which we are doing charged with materials directly used therein and with the labor directly expended thereon. The other items of the amount which we have spent in our manufacturing are, for the moment, suspended in the account of manufacturing expense.

The manufacturing expense account should represent all the moneys expended during the month for manufacturing purposes and which have not already been charged into goods finished and in process as direct labor or material. The items reaching this account will arise directly from the charge register, from the supply requisitions, from the non-productive payroll, and from the accrued items of a more or less fixed nature, such as depreciation on plant and equipment, taxes, insurance, and the like. The accrued items or prepaid operating expenses are so termed because they are really annual or term charges and are to be reduced for current purposes to a monthly basis.

Thus, insurance being paid in advance, it would not be fair to charge a single month's operations with the total payment, because that month has taken only one twelfth of the year's expenditure. The total of all of these items are eventually accounted for, but they are held in the various subsidiary accounts and become expense only as consumed. We therefore

make a monthly journal entry of the proportionate share of such expense and post as a debit to the manufacturing expense account. The manufacturing expense account is then closed out to goods finished or in process.

In our cost system, manufacturing expense was collected upon the departmental expense analysis, the fixed charges being proportioned; the sheets containing the details of the items are expressed only in totals on the general books. Therefore the various totals of the expense analysis sheets should be identical with the ledger account of manufacturing expense. The summary sheet of the expense analysis will thus check back with the ledger accounts and give complete proof of the accuracy of the cost distribution.

Referring back to the chapter on purchasing (Chapter V) it will be noticed that in the charge register a separate division was made for selling expense. From the charge register comes the debits to the ledger account of selling expense. As in the case of the manufacturing expense, the details in the cost system come up through the summary of selling expense analysis and the subsidiary sheets. The totals from the summary must check with the selling account in the ledger.

Handling Finished Goods and Parts in Process. The purpose of manufacturing is to produce goods. The books chronicle the business progress; therefore all manufacturing accounts eventually merge in goods finished or in process. This ledger account starts with the inventory of the beginning of the period and receives debits for material, productive labor, and manufacturing expense. That is, we start the account with what we have on hand and add to it the moneys which have been laid out in order to buy and fabricate goods. It is the record of what we have done during the month in the way of production.

Certain of the goods are in a finished state ready for shipment. We know their number. If we multiply this number by the cost per article, as taken from our cost system, we shall have the finished cost of that which is ready for shipment. This amount we can credit to goods in process and debit a new account entitled finished goods, if we desire to keep separate tally of that which is ready for shipment and that which is still in the process of making.

If, however, the volume is not sufficiently large to warrant the two accounts or if there is no particular desire to separate

them, then we retain all of the goods—whether finished or in process—in the one account entitled goods finished or in process.

As goods are shipped, we multiply the number shipped by the cost per unit, credit the total to goods finished or in process, and make the debit in a new account, cost of goods sold. If both the goods in process and finished goods accounts are carried, the final credit is to finished goods instead of to goods in process.

The balance in the finished goods account always represents the cost value of that which is on hand ready to go out on orders.

I have treated each of these accounts as inclusive heads. They should not be inclusive unless the concern makes only one line, for otherwise why go to a vast amount of trouble to secure details on costs and then abandon them in an omnibus account? Grouping accounts defeats one of the main purposes of cost accountancy, which is to afford detailed comparisons in order that manufacturing wastes may be eliminated.

The foregoing accounts will serve as models for the accounts subsidiary to them which will be identical in form. These subsidiary accounts should give the details of each kind or type of article which is manufactured. That is, they should be arranged so that like can be compared with like and thus permit the manufacturer to know where he is making money, where he is losing money, and where economies or better management will be in order.

We now have all the facts for a statement for the month or whatever period has been chosen. The inventory difficulty that hampered frequent business statements has disappeared. Our inventory is on our books and taking off a statement is purely a bookkeeping matter.

Determining the Frequency of Making Statements. How often should such statements be compiled? Here again we must consider the personal equation and the nature of the business. I would say with some positiveness that they should not be less frequent than once a month; in some concerns, once a week is desirable; and there may even be cases where a daily exhibition is useful. But as I have said before, daily and weekly statements may be a source of trouble, and they should be supplemented by monthly statements and also by quarterly and annual statements. Business does not change much from day to day. The figures which we obtain will not convey much unless they can be compared with the figures of similar periods,

and these periods are valuable only as they give a perspective of the business.

For instance, it would not tell us anything in particular to compare January 20 of this year with January 20 of last year, because one of those days might have been in the middle of a blizzard, or of an epidemic, or surrounded by some condition which made it totally unrepresentative. But did we compare the two months of January then we should be apt to hit an average; or, if extraordinary conditions obtained in one month so as to take it out of the normal, then it would be possible to make a note explaining the circumstances. My general conclusion is that statements are not commonly of much value when taken more frequently than monthly; although, of course, that which I say must be qualified by circumstances.

Handling Sales. The item which has not yet been touched on is sales. The gross sales are entered in the account of that name. The total credit entries minus the debit postings from the cost of goods sold gives the gross trading profit. From this total, deduct the selling expense and the result is the net profit of the period.

The statements may be elaborated to any degree. An excellent type for a business manufacturing a variety of lines is shown on Insert III. There the profit or loss was carried by lines manufactured and the cost summary made up from all of the several operations. Where a profit is made the total shows black, where there is a loss, red. The executive, merely by running his eye along the totals, finds the weak spots—the spots to which he must give attention—glaring out at him in red.

If the product is sold through salesmen, another summary should show the marketing by salesmen with the profit or loss on each salesman. And again it is often valuable to arrange the sales territorially—either by selling divisions or by states. Territorial statements afford a splendid check upon the tendency to give full sway to the mere pride of selling everywhere.

It may be good policy to sell everywhere at one price, but undoubtedly there should be no conclusion in the mind of the management as to the relative values of sales in different sections. Knowing these relative values, then the prices, credits, and in fact all of the details of the business can be given executive regulation. For instance, the credit losses in some states may make it necessary to point out to the credit department that

unless business there can be done on a cash basis it will not be profitable to sell.

Had the statement brought the burden of all credit losses back on the product we should have found that the bad debtors of, say one or two sections, were raising all our prices, and putting us at a disadvantage with the man who was not indulging in the luxury of selling in sections where credit was abnormally bad.

The number of executive reports which can be arranged from the data included in the detailed monthly statement is almost infinite. Any fact concerning the business may be had, and just how these facts are to be arranged will depend upon choice. I have indicated policy types. They are not inclusive—they are only suggestions which it is hoped will be stimulating. But the owner or the executive who wants to see success, will undoubtedly have his own ideas of the facts that he particularly wants to know.

CHAPTER XXI

ACCOUNTING FOR THE MAN WHO SELLS PERSONAL SERVICE

THE most complicated problems of cost accountancy naturally arise in manufacturing, because there we have the critical point of distributing the overhead burden. When the manufacturer also sells his product directly or through agents, he had in some measure nearly all of the known problems of accountancy in their simple or in their more complex forms.

The application of cost accountancy to any section of commerce whose activity is less than that of a combined manufacturing and selling organization is a matter of lopping off here and there.

Take the man who sells only services—a professional man or a contractor who agrees only to construct and not to furnish materials. There are so many lines that fall under this inclusive head that it is useless to try to enumerate them and, in addition to the easily classified, one has the various gradations which have some of the earmarks of manufacturing and merchandising.

There may be a material charge but, as in the case of a contractor, it may be entirely a direct charge to the job, so that what he actually sells are the services of his organization. In almost any case where the material comes in finished form, and the sole questions is its installation, then that business falls into the class of service selling as distinguished from manufacturing or merchandising.

Since in service selling we carry no stock and do not manufacture, we are at once rid of the charge for materials and for factory overheads. We have already seen in the chapter on manufacturing expenses that in no event should overhead be apportioned on the basis of the value of material. Therefore if material be supplied by one who sells principally services, the material charges (handling, freight, and so on), will all be direct charges against the particular job.

Supplies are absorbed in the overhead expense; our business is really to sell services, thus the overhead arising from supplies finds its way into selling expense.

The big item is labor; and here some of the methods of timekeeping outlined in Chapter XVII on factory labor, may be used. Job cards should be provided for each man for each job, or, if a considerable number of men are employed on identical tasks on the same job, then all of these men can be carried on the same sheet with divisions noting the time of each. That is, instead of the labor time originating on job cards and eventually finding its way into a summary, the summary may be made at once. The time from the job cards should be checked with the number of hours of available time in order to check the payroll, for it will sometimes be found that a workman will turn in a number of detailed records, and having guessed at the time for each job, his total chargeable time will exceed that which he could possibly have worked.

It is always desirable to put the divisions of time on the card itself so that the operator need only check off these divisions. If he is permitted to put down his total time, he will guess at it. If he actually spent 2¾ hours, he is apt to charge either 2 hours or 3 hours—usually the nearest time that may be expressed in round figures. As in factory labor one must know exact times of labor so that the idle hours may be picked out and charged to overhead or studied and eliminated; hence an adaptation of Form 79, given on page 235, is desirable, except where there is a timekeeper on the job itself.

Handling Traveling Expenses. If the employee travels and is for a period under his own direction accruing expense both for salary and for traveling, the form of expense and time report given in Form 51 shown on page 120, cannot be bettered. This form not only apportions the time to the job or jobs, but it also gives on the same sheet his standardized traveling expenses; standardizing expense is most desirable.

You say in effect to your employees: "You can spend what you like on your traveling, but I shall allow only according to a certain fair schedule of rates which is provided on the back of the expense sheet." Thus you can estimate in advance precisely what the traveling and living expense will be and put an otherwise uncontrollable item into the controlled class. You can tell a client in advance precisely how much he is going to be charged

and avoid the disagreeable features of an argument over expense. If the rates are fairly fixed, the employees have no ground for complaint. The extravagant men who spend over the fixed rate, spend their own and not your money; the careful men keep within the fixed rate and they make money. In fixing a rate, one should calculate sums that would exactly repay an ordinary man on his outlay for comfortable living. Then the extraordinary man will either lose or make money according to the bend his mind takes.

The point immediately arises in any case of traveling to outside work, whether it be a journey of one half hour in the city, or a journey of a day or more in the country, as to when the time with which the customer is to be charged begins and also how much of the traveling expense is properly his.

Suppose you have an office in New York and you are called to a job in Pittsburgh. The men whom you want to send are in Boston. Should you charge your customer with the fare and time from Boston to Pittsburgh? Of course you should not. Suppose the men whom you wanted to send, instead of being in Boston, were in New Zealand? I think that answers the question.

The time and the traveling expense to be charged must be calculated from your own office to the job; and if you take a man from another point—although, of course, you must allow him his time and expenses in reaching the job—you can charge the customer only with the expense and time which it would require to make the journey from your own office. Thus you lose money. But, conversely, if your employee happens to be at a point nearer to the job than your office, you will properly charge fare and time as though he had come from your office—although the fare and time might exceed that actually spent. In the one way you lose money and in the other you make money, and it more or less evens itself up in the end.

The Place of Office Burden. The overhead or burden consists of office expense, supervision, and other obvious items depending upon the business. It is gathered with an expense analysis sheet precisely as is manufacturing and selling expense. The total of the overhead is treated as a selling expense and is distributed on the hourly basis over your normal productive working force.

For instance, if your normal force be 10 men and you pay them for 54 hours a week or 225 hours a month, you will have a

total working month of 2,250 hours. This divided into your overhead expense will give you the amount per hour to be charged to the men's time as overhead.

Handling Dull and Rush Seasons. If you take on additional men for a particular job and not as regular employees, the time and the expense of those men will be charged directly against the job and they will not absorb a share of the overhead burden. In most cases where services alone are sold, the organization is largely executive and fairly stable in character, and therefore it would be unwise to lower the overhead each time a temporary addition is made. It is better to treat the extra men as direct charges—just as you would material.

If, however, an abnormally dull season compels the cutting down of the permanent force, you will have, of course, an increase in overhead because there will be fewer hours to divide into the total expense. Probably the total of your overhead will also decrease, so that a new calculation would not be very different from the old percentage. But if there be a radical rise in the overhead, I think that it is better practice—unless the rise threatens to become permanent—to treat the added overhead as an abnormal expense. This principle was quite fully discussed on pages 265 to 267 in connection with abnormal and subnormal manufacturing expense.

In every office, clerical work, report typing, or other inside matters directly chargeable to a particular job, should be treated as direct charges and not as a part of the overhead. If one makes up an extensive set of plans or an elaborate report, the charge is certainly against the man who orders the work and should not be distributed as overhead, consequently loading up another plan or report. Cards corresponding to "job cards" should be provided for such of the office force as do not work exclusively on overhead affairs. Their time, taken off, will go either to direct charges or to expense.

Summarizing the Charges. The summary of charges in the sale of services is quite simple, and an excellent form which may be adapted to other lines is shown on Insert VIII. Here the facts of the contract or the job are given at the top. In the columns provided are first charged the fees and the expenses according to the rate in vogue. Then follow four columns devoted to cost: first, the salary and the expense which is chargeable and, second, the salary and expense which is not

chargeable; the "non-chargeable" being such items of actual time or expense as are not devoted to the job or operation, as where the journey is made from a point further away from the installation than your own office. Then the direct office expenses are put in from the cards.

Thus we have the exact cost, the salary items having accumulated their proper share of the overhead.

The amount of the final fee charged is based on whatever percentage or other method fits the case. A contractor will base his fee on a percentage of the cost; the professional man may also adopt some such method, or may regard his costkeeping only as a means of knowing the proper charge minus his own skill. He will assess his skill on the basis of the benefit he has given to the client, and in this case the actual fee may have no relation to the costs incurred. But, even in such an event, the cost records are of value, for one must know how much of his income is profit and he must have some intelligent method of ascertaining the net cost of his own services.

I have only indicated methods because the principles have already been given in the chapters on manufacturing costs—many of them are applicable to the man who sells services if only he omits that which he does not need.

CHAPTER XXII

ACCOUNTING FOR THE RETAILER

NO theoretical difference exists between the accounting of retail merchandising and that of the selling side of manufacturing; the same principles hold for each, but their practices diverge sharply. The most diversified manufacturing business has, compared with a retail store, comparatively few different kinds of articles; the manufacturer must of necessity arrange his costs and his sales by units, and although the number of units may be very large, their classifications will seldom be numbered above the hundreds.

The retail store, on the contrary, has thousands of units where the manufacturer has hundreds—and in the case of a department store or a general store, it may be millions instead of hundreds. It would be entirely possible to carry on retail accounting by units and the results obtained would be satisfactory and accurate—but the labor involved would be tremendous. To carry the separate units through inventories, costs, and the like, in a large department store, would require in the cost department almost as many clerks as there are salespeople in the selling department. The finding of the cost of doing business would more than absorb any possible profits.

If the retail store should have but a very few lines—as in the case of a small number of extremely expensive specialty shops—then the unit system of accounting and costkeeping as outlined in the manufacturing sections of this book could successfully be used, with only the omission of such accounts and such procedures as are provided for operations which do not come within the comprehension of the retailer. However, the number of shops which are in a position to make such adaptations are so few that they need not be considered.

Determining the Basis of Merchandising Costs. Since the number of separate articles is so great that unit costs are not feasible, we abandon unit costs as a basis and work with the

selling prices of lines in departments (except in the case of individual articles of great value, such as expensive pieces of jewelry on which we may keep individual costs). The selling figure is adopted because it is by that price that the goods are known throughout the store, and it would be confusing to introduce the price at which the goods had originally been purchased.

In manufacturing we dealt with the cost price and the margin of profit; their sum was the sales price. Now we have the selling price and the "mark-up." We use the selling price in most of our calculations and this, less the "mark-up," will give the purchasing price. Except that we, so to speak, work backward, cost finding in retail merchandising is not very different from cost finding in manufacturing.

Many of the principles previously explained in this book are, with slight changes, adaptable to any kind of retail merchandising and the keen merchant will undoubtedly be able to adopt, for his own system, much of that which has already been given. For instance, the chapters on purchasing, payment, the money coming in, the closing of the books, the statement of condition, depreciation, and the appraisement of good will, contain methods which may be used by anyone. But, as I have said in almost every chapter, no set of forms and no rules other than the fundamental rules of bookkeeping can be adopted blindly by any business. One retail store, by reason of its conditions, may require an accounting which, in detail, will be quite different from the store across the street—but the principles will not change.

What Is a Department? I have chosen, to illustrate the accounting of retail merchandising, a department store of moderate size located in a city of about 1,000,000 people. The procedure was installed by me and has been in successful operation for some years. I have chosen a department store in order that as many as possible of the varied phases of accounting may be included. But this choice does not mean that the methods discussed are only for a department store, and also it does not mean that because you do not call yourself a "department store" that you are not one. Nearly every store is the better for being divided into accounting departments, although it is entirely unnecessary, except for the convenience to customers and the disposal of stock, to make a physical division.

Take any hardware store. It will carry hardware of various kinds—ranging from nails to lathes—and will probably also include paints. The ordinary drug store will be at least divided into prescription, patent medicine, and soda water sections. The haberdashery will certainly have departments for underwear and shirtings, gloves, ties, collars, and so on, with possibly hats and some form of ready-to-wear garments. All of these stores are department stores; the term does not necessarily connote a ten-story building filling a city block. The concern occupying an eight by twelve hole in the wall may be, in its way, as much of a department store as Wanamaker's or Marshall Field's.

In the chapter on manufacturing expense (Chapter XVIII) the necessity of dividing a factory into departments, throughout each of which the same conditions would obtain, was shown. In retail merchandising a like division should be made—and much of the accuracy of the accounting in merchandising will depend upon the judgment with which the store is departmentalized. Accurate costs cannot be had if perishable goods are grouped with staples. Women's hats, which lose almost their entire value after one season, cannot be placed in the same department with linens. Therefore, put only one general line into a department; the guide is common sense. Too many departments make the accounting too expensive; too few departments make the costs too general.

The Reasons for Frequent Turnovers. The compelling idea in all accounting is to learn how and why we make money—conversely, how and why we lose money. Such studies cannot be made from bulk figures, but only from records which narrowly confine their subject matter in order that the weak and the strong portions may be localized. We make a profit by completing the cycle of business; that is by laying out money in the purchase of goods, selling those goods at a higher price than we paid for them, and thus bringing in to us more cash than we started with. If we complete this cycle but once during the year we shall make but one profit, but if we complete it 10 times during that period, we shall have 10 profits.

The completion of a cycle is called the turnover of a stock, and the number of times that we turn our stock during the year is our rate of turnover. The rate of turnover is the controlling factor in the retail merchandising of today, and the eternal problem of the merchant is to so adjust his costs and his profits

that a reasonable rate of turnover may be had. What is reasonable is a question of circumstances. The store dealing in pearls could not have the rate of a well-managed 5- and 10-cent store. The high-priced specialty shop must usually be content with a lower rate of turnover than the shop which makes a specialty of selling popular-priced clothing.

We must know our rate of turnover as a whole—but that knowledge will not be an aid to increasing our profits unless we know the component departmental rates of turnover. The more closely we departmentalize, the more detailed will be our analysis of our rate of turnover, and therefore we shall be better equipped to deal with the problems of increasing the revolutions of our business cycle.

Various methods by which rates of turnover may be increased and the yearly profits swelled, belong to the subject of merchandising in general and not to accounting, but the business man cannot apply the great mass of merchandising knowledge which now exists, unless his accounts are so ordered that his business is constantly dissected before him. Therefore the foundation of increased profit and better business is accurate and illuminative accounting.

The bookkeeping of too many stores is a mere record of purchases and sales and contains little more than the bare facts of what we bought and what we owe, of what we sold and what is owing to us, and the cash that we have in bank. With only such records as these the owner or executive cannot do more than guess, and if his business succeeds it is merely because he is a good guesser. The best business men are good guessers, but they restrict their guessing to estimating the tastes of the public and do not bring their speculative faculties to the task of estimating the progress of business.

The Fundamental Books to Keep. The books which I advocate for any retail merchandising enterprise, even of the very simplest description, are four in number. They are: (1) the charge register (sometimes called the merchandising and expense register), which has displaced the cumbersome journal; (2) the daily sales register; (3) the cash book—the form of which will depend upon the size of the business; and (4) the general ledger.

These may be supplemented by any number of subsidiary accounts and books which the nature and size of the enterprise

demands. The forms of these books will be taken up as the chapter progresses.

Purchasing for the Retailer. Good selling is predicated upon skilful buying; practically all of the purchase forms and machinery which were outlined in Chapter V can be used by the retailer—but with discriminating changes. The doctrine of maximum and minimum stocks can be employed to great advantage, but a wide range of discretion must be exercised in fixing the amounts. In the staple articles the determinations are not difficult, but in the purchasing and maintenance of stocks of seasonal articles, the real ability of the merchant comes into play.

A shortage report in a form similar to that used in a manufacturing store room may be sent to the purchasing department by the stockkeepers for all of the staple lines; but since the buyer is providing for a public instead of for a series of manufacturing processes, he will not confine himself only to the replacement of the goods which are commonly carried in the inventory, but will constantly seek to add new articles and to discard obsolete styles. But he carries many staples and his records and files should contain the performance records and the quotations of each of the various manufacturers and jobbers.

All goods should be ordered on a purchasing form. Any form given in Chapter V may be varied to suit the especial needs, observing always the point that it is well not to have on the copy which goes to the receiving clerk any clew as to the quantities ordered, so that he may be forced to an independent count. An excellent form in triplicate (the first copy going to the seller and constituting his authority for shipping the goods, the second copy—without quantities—to the receiving clerk, and the third copy for filing among the buyer's records) are Forms 22-A to 22-E, shown in Insert II. If the necessity compels a verbal order, it should be confirmed immediately by the form.

Immediately upon sending out an order form, the receiving clerk should be given a copy, which he will file as his permit to receive and check the goods when they arrive. When the shipment comes in, the receiving clerk makes out a report in triplicate. Spaces are provided on this form for the numbers or initials of the particular employees who open and check the goods. The original of the form goes to the buyer and he adds the price from the invoice which has already been given to him. He should then

examine the merchandise to ascertain if the quality is in accordance with instructions and then fill in the selling price. The second copy goes to the auditor or bookkeeper who is thus notified that the goods are on hand and that the buyer should, within 24 hours, return the invoice to the office.

This makes the notification of the receipt of the goods automatic, and if the invoice is not turned into the office within 24 hours, an investigation can immediately be started. Without this notification the office would be required daily to ask what had been received, for otherwise the invoice might not be sent on to it and the highly important discount might be missed.

On the buyer's copy should be posted a tag (Form 93) showing the total retail price of the lot purchased and the total anticipated profits or "mark-up." The third copy remains with the receiving clerk as his authority. If any of the goods are returned, a report in triplicate should be made out—the original going back with the shipment to the seller, the duplicate to the buyer, and the third copy bound into the permanent file for the receiving clerk.

The office having received a report from the buyer has thereby its authority to mark the invoice for payment.

INVOICE PASTER

Total Retail _____ $_____

Total Cost _____

_____

Anticipated Profit _____ $_____

Form 93

Of course all of this formality will not be necessary in the very small establishment—but whenever a particular person takes charge of purchasing and another of receiving, adaptation of the records can well be used. The purchasing records are of the very highest value, irrespective of the size or character of the

business. One must have the facts in order to buy intelligently.

The Charge Register. The invoice is now ready to be entered upon the charge register. The principle of the charge register has already been explained (Chapter V). Its scope in merchandising is greater than in any other kind of business because it can contain more of the charges—in fact it can hold nearly all of the charges of the establishment. A good retail form is shown at the top of Insert XIII. It contains at the left, a space for the date of the invoice, the name of the creditor, the amount of the invoice, and the column marked "paid" in which is stamped the date when the bill is paid. The other columns distribute the charges by departments. Each department takes four columns. The first is entitled "selling price" or "merchandise at retail" and in it the gross retail price at which the lot is expected to be sold is entered. The next column is that of "mark-up" or "anticipated profit." The selling price minus the mark-up is the amount payable on the invoice and should equal the amount entered in the first column of the register. The lot totals of selling price and mark-up have already been added on the tag attached to the buyer's report.

The next two columns take the expense of the department, one column being devoted to the amount and the second to a description of the payment—that is the account for which the payment was made.

The width of the charge register is limited only by the number of departments; but, for convenience, slip sheets should be used.

To illustrate its use: Suppose we buy a lot of gloves invoiced at $100 which we expect to sell at $175. We should enter the $100 and the name of the creditor in their proper columns, distribute $175 to the selling price column, and $75 in the mark-up column. A check on the accuracy of the figures is had by comparing the invoice columns with the total of the selling price columns minus the total of the mark-up columns.

Invoices having been entered, they are filed in the maturity files, and any one of the various procedures for payment, the selection of voucher checks, and the like—as explained in Chapter VI—may then be utilized.

Only the monthly totals are posted from the charge register to the separate ledger accounts, which—as previously explained in Chapter V—is one of the great time-saving features of the charge register.

The separate totals of the two items—the selling price of the goods and the mark-up, are posted to separate ledger accounts under the same names. We do not keep individual accounts of what is owing because the open spaces on the charge register opposite the creditor's name in the "paid" column will show the unpaid creditors.

The relation of the mark-up to the cost of goods (the amount we credit the vendor) gives the percentage of anticipated profit on the cost, and the percentage of the mark-up to the selling price gives the anticipated profit on sales. These may be accumulated by departments to give the anticipated profits per department and afterward compared with the actual performances.

I have had the buyer mark the selling price on the goods apparently without any relation to the cost of doing business or to any other factor. I do this because such is the way it works out in practice. It is the prevailing prices that govern in retail merchandising to a very large degree, and thus the cost system might to some extent be said to work backward; because, instead of fixing the selling price after knowing all the costs, we are compelled to fix it on what other people are doing.

We shall later ascertain through the records, if the selling price, all things considered, is a profitable one. If we cannot sell any line at a profit in competition with other merchants, then the fact should be known. Or, again, we may discover that we can sell at a price less than that which generally prevails and thus undersell our competitors.

The buyer fixes his price largely with relation to competitors; but the wise buyer takes his ultimate selling figures all the way back to the purchase of the goods. He knows the percentage he must add for the cost of doing business; and thus, before purchasing, he will know whether the price quoted to him, plus his own cost of doing business, will permit of the articles being sold at prevailing figures and still return a satisfactory profit.

Goods well bought are half sold, and here many matters of merchandising policy and practice enter, which have nothing to do with accounting.

The receiving clerk's reports are bound. If goods are on hand more than two or three months, or whatever term within which policy dictates that they should be sold, the executives should trace those goods back through the receiving clerk's report and gain the entire history of their purchase, and add the facts thus

obtained to the records of the buying department. Then plans for the disposal of the goods should be formulated.

Making the Sales Records. The initial record of a sale is the sales ticket of the salesperson. Many forms of these are now used and the best form is merely that which suits the trade. In Chapter VIII the handling of cash sales was treated and the use of the cash register instead of sales tickets was discussed. It was there recommended that if the exigencies of the business permit, that some kind of a sales ticket be used, in order that one person could be made responsible for the handing of all moneys; but the desirability of the various methods will depend entirely upon the character of the business. A great number of small sales—such as in a 5- and 10-cent store or at a bargain counter—will be handled better with a cash register than with a sales ticket. The convenience to the customer must also be borne in mind and never be sacrificed for any added safety in the handling of cash.

I know of a considerable number of stores which lost business simply because they installed systems of taking cash which caused long waits for their customers after purchase. The accountant, in his enthusiastic search for the perfect method, will sometimes forget that stores exist to sell to human beings who are not in the least interested in the conservation of the store owner's funds.

A common form of sales slip (Form 95) makes a carbon duplicate; one copy goes to the cashier with the cash, and the other is wrapped into the parcel. The sales are summarized by the employee, either on a stub or on a form in the back of the sales book. By totaling the sales slips at the end of the day, the departmental sales may be had from the departments. The slips that go to the accounting office are sorted as they arrive and at the end of the day they also are totaled by departments. Quite frequently a rule exists that the employees in any department may not leave for the day until their total sales are made to agree with the totals of the accounting department. Thus errors are disposed of at once while they are fresh in mind.

These sales slips are also sometimes so arranged that they may be used as labels upon a finished package—in which case it is usually found desirable not to have the price paid appear on such portion as acts as a label. This is merely a concession to the general objection, especially among women, to having anyone know how much they paid for a thing.

SALES TICKET

Stamp Here	The DOUD DRY GOODS CO., Inc.		
327-9	Department	Clerk	Inspector

NAME_____

ADDRESS_____

_____

Date	Outside Order	How Sold	Total Amount Sale

CHARGE TO M_____

ADDRESS_____

PURCHASED BY_____

327-9	Department	Clerk

Stamp

Here

Accommodation	
Packages	

Date	How Sold	Department	Clerk

Amount Paid	Amount of C.O.D.	Stamp
Amount Received from Customer	**Amount of Charge**	
		Here

FORM 95: A sales slip similar to this one is used by many retail establishments. It allows for a carbon copy which accompanies the purchase. The original, of course, goes to the cashier. The sales are summarized either on a stub or in the back of the sales book. Totals are thus easily arrived at.

Handling Returns. A portion of the goods—for various reasons, good or otherwise—will be returned, either by requests to have the goods removed by the driver, or by the purchaser bringing them back. The non-accounting features of returns and credits are matters of individual policy. The return evil is expensive, but it is not a matter to be disposed of purely by figures—excluding of course those persons who use the privilege to obtain articles for temporary employment with the idea of unfairly turning them back once the employment has ceased. Such people are, of course, to be run down. But, on the other hand, it is impossible to determine, except in individual instances, whether or not a customer does not buy more freely at a store where the return privilege is liberal than at one where there are no returns; and whether the additional sales do not thereby balance the undoubted loss on returns.

Salespeople should not be permitted to grant returns or credits, but this function should be centralized in an adjustment desk or with a department manager, with the thought, however, in mind, that the returns should not be made so cumbersome that ill feeling in the customer will be engendered.

Form 96 is devised to take care of the returns through the delivery department. This form is made out by the office and is handed to the delivery man as authority to fetch the goods. The delivery men should not be permitted to receive goods without an order. Form 97 provides for cash refunds. It is formed with the same time-saving features that we used in the voucher check. The original is an order on the cashier to pay. With the single writing is also made a receipt from the cashier, while the third copy goes through to the sheet which is retained in the adjustment department as a record and check until forwarded to the office. The arrangement of the printed matter is such that a single writing of the payee's name and the amount records all three records.

It is advisable, in all store records which must be posted to the ledger or of which further note must be made by the accounting department, that if they are not in the looseleaf form, two books be kept alternating—one book always being in use by the cashier, adjustment desk, or whatever department is concerned, while the other is with the office for posting.

Handling Cash Receipts and Disbursements. The sums disbursed by the cashier should be treated as explained in

RETURNED GOODS RECORD

Date Sold	How Sold	Dollars	Cents

Received Back	Department	Checked in Department by

FORM 96: This form is devised to take care of returned goods through the delivery department. It is made out by the office and handed to the delivery man as authority to fetch the goods without which he is not permitted to accept any returns. This method centralizes the granting of returns for credits in an adjustment desk or with a department manager and also eliminates a great deal of clerical work which would otherwise be necessary.

Return Approved by _____

The DOUD DRY GOODS CO., Inc.
Bridgeport, Conn.

No._____

M_____

_____

Please deliver to bearer goods to be returned to this Company for Credit.

This slip will be your Receipt.

The DOUD DRY GOODS CO., Inc.

_____

MERCHANDISE AND EXPENSE REGISTER

Page	Date	Creditor	Credit Accounts Payable	Paid	Department "A"				Department "B"			
					Debit Merchandise at Retail	Credit Anticipated Profit	Debit Expense Amount	Debit Expense Account	Debit Merchandise at Retail	Credit Anticipated Profit	Debit Expense Amount	Debit Expense Account
1												
2												
3												
4												
5												
6												
43												
44												
45												
46												
47												
48												
49												
50												

FORM 94: The scope of a charge register such as this is greater in the merchandising business than in any other, because it contains more of the charges. In fact it can hold nearly all of the charges of an establishment. The operation of such a register is quite simple and fully explained in Chapter V.

MERCHANDISE AND EXPENSE REGISTER

Department "G"				Department "H"				Department "I"				Adm. and Gen. Exp.		Sundries			
Debit Merchandise at Retail	Credit Anticipated Profit	Debit Expense Amount	Debit Expense Account	Debit Merchandise at Retail	Credit Anticipated Profit	Debit Expense Amount	Debit Expense Account	Debit Merchandise at Retail	Credit Anticipated Profit	Debit Expense Amount	Debit Expense Account	Amount	Account	Account	Folio	Debit	Credit

DAILY SALES REGISTER

Month of 191

	Company Total				Department "A"				Department "B"				Department "C"			
	Credit Cash Sales	Credit Charge Sales	Credit C. O. D. Sales	Debit Anticipated Profit Adjustments	Credit Cash Sales	Credit Charge Sales	Credit C. O. D. Sales	Debit Anticipated Profit Adjustments	Credit Cash Sales	Credit Charge Sales	Credit C. O. D. Sales	Debit Anticipated Profit Adjustments	Credit Cash Sales	Credit Charge Sales	Credit C. O. D. Sales	Debit Anticipated Profit Adjustments
1																
2																
3																
4																
5																
6																
7																
24																
25																
26																
27																
28																
29																
30																
31																

DAILY SALES REGISTER

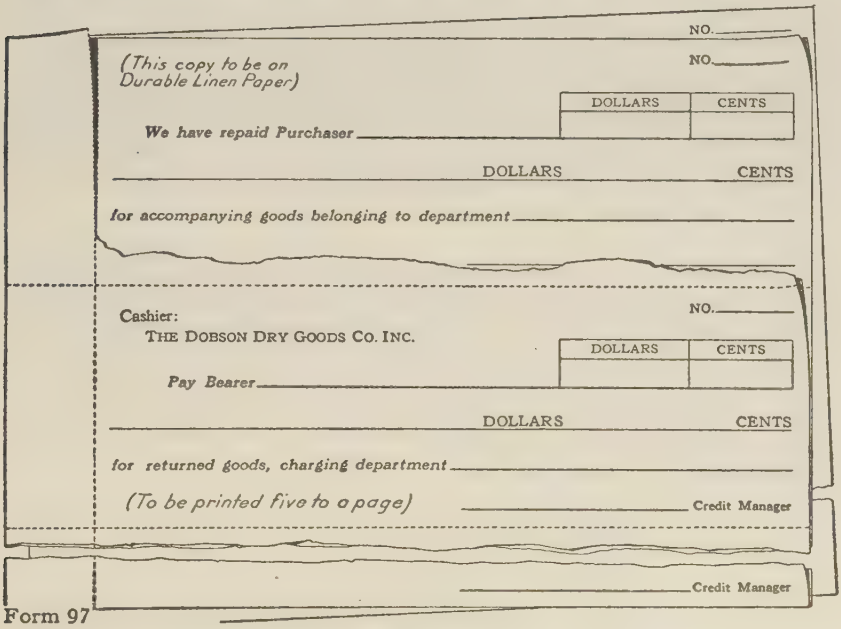
Month of 191

Department "F"				Department "G"				Department "H"				Department "I"				
Credit Cash Sales	Credit Charge Sales	Credit C. O. D. Sales	Debit Anticipated Profit Adjustments	Credit Cash Sales	Credit Charge Sales	Credit C. O. D. Sales	Debit Anticipated Profit Adjustments	Credit Cash Sales	Credit Charge Sales	Credit C. O. D. Sales	Debit Anticipated Profit Adjustments	Credit Cash Sales	Credit Charge Sales	Credit C. O. D. Sales	Debit Anticipated Profit Adjustments	
																1
																2
																3
																4
																5
																6
																7
																24
																25
																26
																27
																28
																29
																30
																31

FORM 98: It is essential to the successful management of any retail business that the performance of every department may be easily arrived at. A form such as this, of which the portion opposite is a part, serves this purpose very effectively and will prove an excellent control sheet for the sales manager as it will show at a glance just where the sales have been good and where they have fallen down.

Chapter VI, and his outlays should be limited to amounts which cannot easily be carried through the general payment scheme.

The cash receipts book will follow the same lines as the book of similar title detailed on page 133, Chapter VIII, except that in retail merchandising we divide into cash sales, credit sales, and c. o. d. sales. The c. o. d. sales are charged temporarily to the delivery agent. Goods should never be sold on memorandum and no provision has been made for such sales. When goods are sent on approval they should be charged as a regular sale and the customer given a credit when they are returned.



Form 97

Gathering Daily Sales Totals. The performance of each department is gathered daily into a highly important form known as the daily sales register. This is divided departmentally, and the departmental sales are subdivided into cash, charge, and c. o. d. Form 98 shown on the lower half of Insert XIII, gives the performances by departments. A further line of information on the salespeople within the departments may be compiled on Form 99, which is helpful in rating individual ability, and will permit wages to be based upon performance.

Marking Up and Marking Down. The goods have been carried at the selling price. If they do not move quickly enough

we have hinted that the price should be marked down. In other cases—a very rare occurrence—the goods are marked up. If these changes in price are not somehow taken into account in our inventory, which is kept at the selling price, it will either be too high or too low. Therefore a "mark-down" or "change" report, shown in Form 100, should be made whenever a department head, or whoever has the authority, decides to alter prices.

INDIVIDUAL SALES RECORD

DEPARTMENT_____ MONTH OF _____ 191__

SALESPERSON'S NAME_____ NUMBER_____

Date	Cash Sales	Charge Sales	C. O. D. Sales	Cash Credits	Charge Credits	C. O. D. Credits	Net Sales
1							
2							
3							
4							
5							
6							
7							
8							
29							
30							
31							

Form 99

Entering Charge Accounts. The charge accounts of customers, if not numerous, may be handled as already explained in Chapter VII, page 114, but a more labor-saving method, and nearly the only method in large stores, is to post directly from day to day from the sales slips to the customer's bill. The first carbon of the bill provides the store record, and at the end of the month the originals are taken out, totaled, and mailed.

Sometimes the total is carried forward with each day's purchase—which is a method even more labor saving. If an outlook envelop is used, no further clerical work is required. The monthly totals only are posted to the ledger. As the customers pay their bills, the carbons of their statements are removed from the file, and thus at the end of the month the bills remaining in file are only those past due. In very large stores these bills are divided among a number of clerks—each clerk being given charge of certain letters of the alphabet. A form of statement is shown in Form 101.

Distributing Expense. The distribution of the burden or overhead does not offer the difficulties which we encountered in manufacturing, because the proportion of indirect to direct expense is comparatively slight.

All of the direct expenses go to the department from the charge register, and most other amounts can likewise be entered. For instance, take advertising. The advertising manager estimates the value of all advertising space by square inches, the different positions in the copy and in the publications being arranged in a scale of values. The department whose goods are advertised is charged directly with its advertising according to the scale. The same methods are followed with the window space and bargain counters. The fixed charges are apportioned

CHANGE SLIP

DEPARTMENT _____ _____ _____ 191 _____

Line No.	Description	Quantity	From	To	Difference	Amount	Authorized by	Reason

Form 100 Report damages and broken goods on this form, giving reason

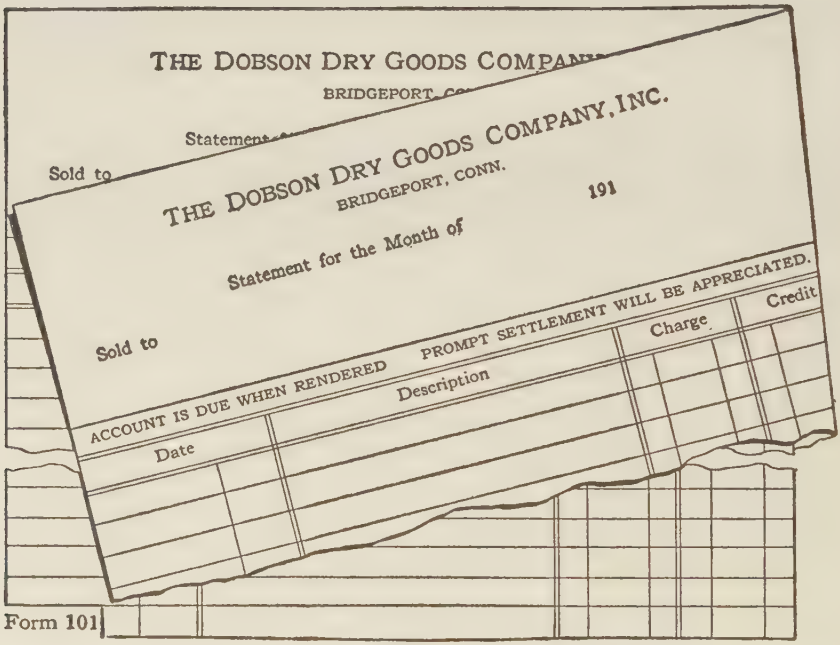
on the square feet occupied by the windows and the counters. The windows and counters thus have definite carrying charges accumulated on a monthly basis. By dividing the number of hours in the month into this total, we have the rental for windows or counters. The department using the window or counter is charged with this rental. In some stores the spaces are auctioned to the buyers.

Apportioning the Fixed Charges. The fixed charges of the establishment are accumulated as was described in Chapter XX, page 272; then the total is apportioned on a square foot basis and each department receives an overhead charge according to the number of square feet and the location it occupies.

The administrative and general expense—with the exception of deliveries, which will be treated separately—is accumulated, and although it may be, it is seldom worth while to distribute it

by departments. Instead the total of these expenses is taken and compared with the total mark-up of the same term; the percentage thus derived is the total percentage to be added to the mark-up for this section of the overhead.

Charging Deliveries into Expense. The delivery expense is often a very heavy one, and the modern effort is to make the charge directly to the departments. In the case of furniture, and often in the case of jewelry, separate deliveries are maintained and the expense is carried directly to the department. Otherwise bulk determines the distribution. The delivery department maintains a tally sheet of the goods from each department,


THE DOBSON DRY GOODS COMPANY

BRIDGEPORT, CO

Statement

Sold to

THE DOBSON DRY GOODS COMPANY, INC.

BRIDGEPORT, CONN.

Statement for the Month of 191

Sold to

ACCOUNT IS DUE WHEN RENDERED PROMPT SETTLEMENT WILL BE APPRECIATED.

Date	Description	Charge	Credit

Form 101

and on this tally sheet are marked classes. The classes act as units and are determined by bulk, expense of packing, and so forth. The number of units shipped during the month, divided into the total expense of delivery, gives the cost per unit. The number of units contributed by any department, multiplied by the unit cost, gives the delivery charge for that month.

Determining Departmental Expense. The expenses of each department are covered upon the same form of expense analysis as already given in Chapter XIX, and with the same com-

parison by month and by period. The items upon the analysis will, of course, vary. Most departments will be covered by at least the items shown in Form 102.

The expense analysis may, if desired, be divided, as has been previously shown under manufacturing expense, into controllable and uncontrollable, and the totals then compared with the total sales of the department, which will give a percentage to be added to sales and which represents the overhead of that department.

Handling General Bookkeeping. The bookkeeping of retail merchandising with the exceptions already noted, follows entirely the lines that have been developed in the previous chap-

EXPENSE ANALYSIS

DEPARTMENT

	Month of			191	Month of			191
	Current Month	Previous Year	This Year to Date	Last Year to Date	Current Month	Previous Year	This Year to Date	Last Year to Date
Salaries								
Commissions								
Allowances								
Express and Freight								
Repairs and Alterations								
Traveling Expense								
Delivery								
Special Advertising								
Postage								
Newspaper Advertising								
Labels, and so forth								
Boxes								
Breakage								
Demonstration								
Incidentals								
General Expense								
Circular Advertising								
Rent								
Light								
Taxes								
Insurance								
Depreciation								
And so forth								
TOTAL								
SALES								
% Expense to Sales								

Form 102

ters, insofar as the ledger and other accounts are concerned. The books are closed and the trial balance taken off in exactly the same manner—although as a matter of fact the books are seldom actually closed—and the statement of condition follows the previous lines.

That which corresponds to the statement of operations of a manufacturing corporation should be taken off monthly by departments. A form is given in Form 103 which is practically self-explanatory.

MONTHLY DEPARTMENTAL PROFIT AND LOSS REPORT

DEPARTMENT

		Month of			191	Month of	191
		Current Month	Previous Year	This Year to Date	Last Year to Date	Current Month	Last Year to Date
Retail	Stock first of month						
	Purchases						
	Total						
	Less mark-downs						
	Net value - Retail						
Cost	Stock first of month - Cost						
	Purchases						
	Total Cost Value						
Percentage	Amount of mark-up						
	% mark-up to Sale Price						
	% mark-up to Cost						
	% Cost to Sale Price						
Sales	Sales for month						
	Cost of same						
	Increase over last year						
	Percentage of increase						
Stock	Stock, end of month - Retail						
	Stock, end of month, - Cost						
	Decrease per month - Cost						
	Decrease from last year						
	Gross Profit						
	Percentage of Profit on Sales						
	Expense (see analysis)						
	Percentage - Expense to Sales						
	Net Profit						
	Percentage - Net Profit to Sales						
	Average stock for year						
	Turnover on average stock						
	Inventory, end of month						
	Difference						

FORM 103: A report in this form from each department of a business at the end of the month will give the owner or executive an exact knowledge of the progress of his business. It is a control sheet that offers many opportunities for uncovering mistakes and discovering improvements.

A valuable item is the entry of the amount of the average stock of the year in order to compare the stock in the report with the average, and also the rate of turnover on the average stock. If a physical inventory has been taken, the figures of this inventory are compared with the inventory from the books and the difference noted. A report in this form gathered by departments at the end of each month will give the owner or executive an exact knowledge of the progress of his business, and, therefore, how he can better it.

A detailed report, as given in Form 104, is also advised. This is a summary by departments, and gives the sales for the day, same day of last week, and the same day of last year. The letters F, C, S, R, show the weather on each of these days—for any retail merchandising comparisons which do not take into account the state of the weather are of small help. The total sales are thus summarized and also the stock on hand. Below is the bank balance, the accounts receivable and the accounts payable. This report keeps the finger of the executive always on the pulse of the business.

DAILY SALES REPORT

_____ 191____

Department	COMPARISON OF DAYS' SALES												Advertising		TOTAL SALES SINCE JAN. 1		STOCK ON HAND AT RETAIL	
	F	C	S	R	F	C	S	R	F	C	S	R			191	191	One Year Ago	This Date
	One Week Ago				One Year Ago				This Date									
A																		
B																		
C																		
D																		
E																		
I																		
Totals																		

Bank Balance $ | Accounts Receivable $ | Accounts Payable $

Form 104 "F" - Fair "C" - Cloudy "S" - Snow "R" - Rain

Shall We Include Interest on Investment? A considerable number of retail houses charge interest upon their investment. This phase of accounting was fully discussed in general on page 244, and the conclusion was there reached that interest on one's own money invested in one's own business is not a proper charge because it is confusing a banker's profit with a business profit.

In some retail lines, for instance in the jewelry trade, the interest is a very serious item. In fact many jewelers realize only a banking interest upon their investment; there are numerous other lines where the rate of turnover is very low indeed because the stock is extremely expensive and the sales are infrequent and usually of high unit values. This would seem to be a case for the addition of interest.

The difficulty with the addition of interest to the cost of stock is basic. It is glibly said that money must be taken as always earning at least a banking profit, and that the merchandising profit does not begin until the banking profit has been withdrawn. Such, however, is not the case; money invested in business is merged in the business, and the matter of interest is not to be considered except in special cases where the money is placed with a business in some role between a share and a loan. The same theory applies to the owner taking out a salary for himself other than the salary which he might be compelled to pay to a clerk whom he replaces. The choice has been made between a banking and a mercantile adventure and should be adhered to.

Slow-moving stocks of considerable value will accumulate much additional cost if interest be added from month to month, and the price at which they may be sold becomes so large that the drastic cuts necessary to move them are delayed. Stock may thus take on a prohibitive cost value and require a selling price which is far above the market—a high price which puts you at a disadvantage with your competitor who may not charge interest or who may have just bought his goods.

The interest that you add is profit, and it is not to be disguised under any other form; money is not worth any fixed sum—it is worth what it brings in the employment to which you put it. If you have chosen merchandising, it is worth what it there earns and no more. To consider your money as both safely invested in government securities and also employed in your trade is absurd. The energy sometimes devoted to adding interest to investment had better be devoted to quickening turnover. When goods do not sell, make up your mind that you have made a mistake in buying, and that a loss is ahead; you will encounter the loss anyway, and it only seems worse if you make the face amount larger by the addition of interest.

CHAPTER XXIII

ACCOUNTING FOR THE JOBBER

THE jobber buys finished goods and resells them to the retailer or—if he handles a product which later enters into some process of fabrication—to the manufacturer or installer. His function is different from that of the broker who does not take title and merely acts as a go-between. The jobber actually buys, and one of the most important divisions of his business is purchasing when prices are low and selling when they advance. In this way he employs his capital to form a kind of trade reservoir to take the surplus from the manufacturer and dole it out in smaller lots to the next intermediate consumer. He seldom has dealings with ultimate consumers. Had he such dealings it would probably be improper to term him a jobber.

In actual practice, jobbing is often intermixed with brokerage, sales agency, or retailing. Properly, however, he is merely a distributor. He buys at the source and in larger lots than it would be profitable or feasible for his customer to purchase and he then sells in the amounts which his trade demands. His particular employment is then one of capital.

In many commodities the jobber has an important part; in others, he is rapidly passing out and the manufacturers are dealing directly with the trade. Another assumed role of the jobber—and one reason for his strong, indispensable position in some lines—is that he acts as a kind of banker for smaller men; because of his more intimate knowledge of his customers he is able to extend lines of credit which would be out of the question in the case of a national manufacturer.

The Principal Jobbing Expenses. The jobber does not change the form of the goods which he buys and therefore his purchases, whether of raw or of finished products, are simply bought at one price and sold at another with no expense of manufacturing. His only expenses are the upkeep of his buildings warehouses, fixtures, administration and office charges,

salesmen with their traveling expenses, salaries and commissions, packing and delivery. These are precisely the expenses of the selling side of a manufacturing business. The bookkeeping and cost accounting of the jobber are exactly those already given in connection with selling by manufacturers.

The principal expenses are those for salesmen and delivery.

Salesmen should be rated according to the profits which they turn over and also by zones in order that the whole selling field may be analyzed.

It is highly important to form a delivery system—if wagons or trucks are used—along the lines given on page 300 for retailing merchants. The circumstances are identical. Deliveries should be apportioned and charged according to lines and selling districts in the manner which has previously been pointed out.

Although the bookkeeping and the cost accounting of jobbing are quite simple, nevertheless they are of high importance because the margin of profit on a specific sale is commonly small and the fair aggregate profit is gained by an exceedingly high rate of turnover.

All the points in jobbing which have just been treated appear at length in various portions of this volume and it is recommended that such of these principles as are applicable be studied in their relation to the improvement of the methods in a jobbing business. The procedures are not complex, but the opportunity for comparisons and checks is no less great and of no less importance than in the other divisions of business.

CHAPTER XXIV

CONTROL REPORTS FOR THE EXECUTIVE

THE reports which an executive should have in order properly to keep track of his business depend upon the exact position which the executive occupies in his organization—that is, how closely he supervises detail and to what extent he is familiar with the routine of his business.

The owner of a single factory of very moderate size would do well to examine practically all of the reports which have been mentioned in previous chapters. But the head of a great corporation with plants, stores, or branches all over the country would be swamped by so much detail. On any individual case the executive may be guided by his past experience; for instance, the man who has come up through the manufacturing side will probably think primarily of factory reports, while the salesman on the contrary will still look upon the summarizing of selling as the most important thing in his business.

The point is that the individual preferences should be tempered and reports should be received by any executive which cover—however broadly—the entire range of the business, whether it be manufacturing, manufacturing and selling, merchandising, or any other variety of enterprise.

From time to time in this volume, examples of proper and instructive reports have been given. The minimum of reports for any executive are those of the final results over a period, compared with preceding periods, a statement of condition, and a statement of operation, the latter in detail such as was exhibited on page 202. He should want to know the profit and the sales in each division of the business as well as upon the enterprise as a whole. Then if the results do not come up to his expectations he can call for further and more detailed reports such as for instance were given in Chapter XVIII. It would also be helpful for the executive to have before him a summary of the expense analysis.

As we come down the line—that is, as we come closer to the actual transactions—the executive will require an increasingly larger number of reports because, if he is close to the detail of the business, it will be necessary for him to have detailed reports. The importance of periodical reports cannot be overestimated.

The department store head should have the daily summaries given in Chapter XXII while the owner of even the smallest kind of a retail store should compile for himself a weekly or at least a monthly report upon the same lines.

No business, whatever its character or size, is too large or too small to be checked periodically, and the results over that period compared with the results of a former period. Without the comparisons, the possibility for the improvements which make for added profits and detailed business methods will not be realized. Most disastrous failures and all gradual, seeping, failures—that is, failures by what might be called attrition—would be prevented by proper periodical comparisons.

The Graphic Representations of Accounts. Sometimes graphs of accounts aid an executive. The importance of the aid depends largely on whether the individual's mind best grasps figures or merely the relations of figures. In the latter case the pictures afforded by the graphs are most instructive.

Practically everything in accountancy may be reduced to the graph form; for instance the relation of indirect to direct labor, the relation of selling expense to sales, and so on through the entire list of important relations. Or again the gross sales, the net sales, the surplus account, the bad debt account, or any other account of recurring totals, can be plotted by dividing a sheet of paper longitudinally into groups of dollars and vertically into periods.

Graphs are striking and, if the relations cannot otherwise be comprehended, should be used. They are especially helpful in talks to employees. But I do not recommend them for other than dramatic purposes. Their fatal defect is that they do not give the reasons.

When Symbols Can Be Used. In using the charge register, one is continually distributing, possibly a large number of items, to many departments, and quite frequently the descriptions which it is necessary to annex to the charges are too voluminous for the space available in the register columns. Then symbols are invoked.

Before making a system of symbols, go over the expenditures of several years and form a list of the various articles which have been purchased. Give each of these articles a number and then letter the departments of the business. Thus we have a department letter to designate the section to which the charge is to go and a number to denote the article purchased. Suppose we buy rubber gloves. Say that our symbol for rubber gloves is 5. They have been bought for department A. Therefore, we enter in the charge register merely A 5, and this symbolization is carried throughout the bookkeeping.

Symbols are in a degree time saving, but they can easily be overdone and too elaborate a system be constructed. Their chief difficulty is that without an index the books are absolutely unintelligible; another difficulty of moment is that if articles are carried entirely by their symbols, the charges may easily be made to a wrong department and the error never discovered. This is upsetting to the general system.

In executive reports and in all accounting short cuts, the thought should be to use those things which are convenient and time saving, but to use them as conveniences and not as part of a rigid system. It is so very easy to become enthusiastic in any of these matters, that I feel that I should constantly caution against riding away on bookkeeping hobbies.

INDEX

ACCOUNTING
- basic principles of 8
- basis of 1
- charge register 72 to 79
- cost
  - fitting into the business accounts 273
  - what it is 210, 273
- definition of 1
- for the man who sells service
  - handling dull and rush seasons 283
  - job cards 281
  - labor 281
  - office burden 282
  - overhead 281
  - pay roll 281
  - summarizing the charges 283, 284
  - traveling expenses 281
- function of 3, 10
- how it differs from bookkeeping 1
- how it affects profits 10
- jobbing
  - delivery system 306
  - expense 305, 306
- one lumber operator's foolish system 1
- retail
  - basis of costs 285, 286
  - books to keep 288
  - by departments 286
  - cash receipts 295, 297
  - charge accounts 298
  - charge register 291, 292
  - daily sales register 297, 303
  - deliveries 300
  - departmental expense 300, 301
  - distinguished from manufacturing 285
  - expense analysis 301
  - fixed charges 299
  - interest on investment 303, 304
  - marking up and marking down 297, 298
  - overhead 299
  - profit and loss report 302
  - returns, how to handle 295, 296
  - sales records 293, 294
  - turnover, reasons for frequent 287
- sales 102 to 125
- the X-ray of business 24
- universality of principles 143
- what it is 3
- what it should include 27
- what it showed one company 21

ACCOUNTS PAYABLE
- account (ledger) 82, 100, 123, 139
- cash discounts 84
- check protection 89
- invoice 83
- maturity file 84, 85
- methods of payment 85
- payroll 91 to 97
- petty cash payments 89, 90
- recording payments 95 to 97
- special voucher check forms 88
- two classes 83
- voucher checks 85 to 89
- (see also Statement of Condition)

ACCOUNTS RECEIVABLE
- account (ledger) 123, 138
- how shown in the statement of condition 166
- in suspense 167

Accruals 171, 172

ADVERTISING
- expense 270 to 272
- records 270 to 272

Amortization of securities 163, 164

Appreciation 199

ASSETS
- deferred 168, 169
- fixed 159
- good will 183 to 191
- quick or current 159
- relation between quick assets and current liabilities 75

Audit, value of competent 181

Autograph system (see Cash)

B

Balance sheet (see Statement of Condition)

Billing (see Sales)

Bills receivable (see Statement of Condition)

Bond and mortgage account (ledger) 42, 48, 81, 99, 122, 139

Bonded indebtedness 171

BOOKKEEPING
- axiom 25
- books required for double entry 30
- books used in single entry 27
- "business" accounts 29
- by machinery 111
- capital transactions 40
- cash book, 30, 31, 36, 39, 40, 41, 46, 50, 131, 288
- change in methods 25
- closing the books 142 to 155
- closing too frequently 145
- day book 36, 37
- debit and credit defined 30
- difference between double and single entry 27, 33
- double entry 25, 27
- essentials 25 to 37
- example of double entry 31, 32
- furniture and fixtures register 35
- how it differs from accounting 1
- journal, 30, 31, 32, 36, 39, 41, 45, 161
- ledger, 30 to 37, 39, 42, 43, 44, 46, 80, 81, 98 to 101, 121 to 124, 137 to 141, 145, 160, 161, 162, 288
- looseleaf 111, 145
- merchandise account 34
- modern closing of accounts 145
- public service corporation's 6
- purpose of 142
- retail 280 to 304
- single entry 27 to 29
- starting out 38 to 50
- subsidiary ledgers 34
- trial balance, 32, 34, 44, 50, 82, 101, 125, 141, 145, 146
- when to debit and when to credit 29

Breakage as selling expense 107
Buildings and equipment account (ledger) 43, 46, 80, 98, 122, 137
Burden (see Overhead)

BUYING
- and paying, coordinating 83
- basic principles 53
- charge register 71 to 79
- comparative cost figures 54
- coordination between stock and purchasing department 55
- faults in 52
- follow-up 67, 68
- form 289
- importance of checking receipts 68
- invoice poster 290
- losses 51
- methods of two buyers 52
- need for good methods 51
- order forms 67 to 70
- performance record 66
- quotation lists 64, 65
- receiving goods 71
- record of purchases for future delivery 65, 66
- regulating amount of stock 56
- requisites of good system 55
- requisition system 71
- retail 289
- supplies 70, 71
- what exact knowledge accomplishes 54

C

CAPITAL STOCK
- authorized, account (ledger), 49, 82, 99, 122, 137
- theory of 170, 171
- unissued, account (ledger) 48, 81, 99, 121, 137
- what it is 170

Capital transactions, where to enter 40

CASH
- account (ledger) 43, 46, 80
- autograph system 133, 134
- book (see Bookkeeping)
- collection sheet 132
- discount, account (ledger) 101, 124, 141
- discounts (see Accounts Payable)
- five sources of 126
- handling 126 to 141
- in bank, account (ledger) 138
- on hand, account (ledger) 98, 122
- receipt book 132
- receipt record 131, 132
- receipts 133
- receipts, retail 295, 297
- register 133
- surrender value of life insurance policies 168
- trade acceptances 126 to 128
- "traveler" sheet 133
- (see also Statement of Condition)

CHECK
- paying by (see Accounts Payable) (see also Payroll)
- protection 89

COLLECTIONS
- collector's receipt 136
- entering receipts 136
- handling 128 to 132
- loss through inaccuracy 135
- mail 135
- sheet 132
- small, disputed amounts 129, 130
- two classes 135

Consignment account 164
Contingent liability 149
Contracts, material value of 148, 149

COSTS
- by standardization 264
- checking into general books 274

– departmental cost sheet 246
– expense, reduced to unit basis 18
– forms of cost sheets 220 to 222
– freight, necessity for knowing 20
– fundamentals of 215
– labor 215, 232 to 241
– labor, reduced to unit basis 18
– losses or wastes 222 to 228
– manufacturing
  – finished goods 276
  – parts in process 276
– material 215, 219 to 231
– necessity for checking 273
– of finished goods 152
– of goods in process 151
– of goods in statement of operation 204
– overhead 215, 242 to 267
– piece-work system to measure labor 18
– retail 285, 286
– scrap 228 to 230
– sheets 219
– why exact are needed 211

COST SYSTEMS
– as aid to better business 214
– choosing the right 214
– complicated 211
– dangers 212
– for small business 213
– function of 274
– need for one suited to the business 212
– what accurate can do for you 217, 218

CREDIT
– definition of 30
– memorandum 109, 110
– when to 29

D

Day book (see Bookkeeping)

DEBIT
– definition of 30
– when to 29

DEPRECIATION
– arbitrary percentages 193
– basis for 195
– buildings 198
– emotional 194
– equipment 192
– how to charge off 192 to 199
– in statement of operation 207
– obsolescence 195
– old installations 196
– operating worth 193
– plant ledger 196, 197
– real estate 199
– reserve 160
  – how to carry 172
  – procedure for handling, 160 to 162
– structural types 198

Dividends, in statement of operation 208

E

EXPENSE
– account (ledger) 42, 81, 100, 124, 140, 149
– administrative 208
– advertising 270 to 272
– analysis 19
– analysis, retail 301
– departmental report 18
– jobbing 305, 306
– manufacturing 205, 275
– reports that show extravagance 20
– sales 106 to 108, 208
– selling
  – collecting 268
  – distribution of 272
  – division in charge register 276
  – packing and shipping 269
  – subsidiary divisions of 269
  – what it is 268
– (see also Costs)
– (see also Overhead)

F

Federal Trade Commission, investigation made by 10

Furniture and fixtures account (ledger) 43, 47, 80, 99, 122, 138

G

GOOD WILL
– as an asset 183
– capitalization value of 187
– court rules 184, 185
– definition of 184
– forms for appraisal of 188, 189
– how calculated in accountancy 185, 186
– in statement of condition 190, 191
– life of 186
– trade name 184

GOODS IN PROCESS
– progress sheets 151
– value of 151

I

INSURANCE
– cash surrender value 168
– fire premiums 169

INTEREST
– account (ledger) 49, 81, 101, 124, 140

– accrued, account (ledger) 48, 82, 100, 123, 139
– on investment, account (ledger) 42

INVENTORY
– at cost 149, 150
– consignment account 164
– figures of Specialty Company 152 to 155
– perpetual 61, 147, 148
– relation of to profits 147

J

Jobbing (see Accounting)
Journal (see Bookkeeping)

L

LABOR
– cost 215
– cost report 19
– departmental payroll 240, 241
– direct, charging 234, 235
– efficiency, percentages by departments 18
– non-productive 205, 232, 238, 239
– operation cost card 236
– paying 232 to 234
– productive 205, 232
– records 235 to 237
– timekeeping 235 to 237, 239, 240
Ledger (see Bookkeeping)

LIABILITIES
– contingent 173
– current 159, 171
– fixed 159

M

Machinery, when it is economical 262

MATERIALS
– and supplies, account (ledger) 43, 47, 80, 99, 123, 140
– cost 215
– cost sheets 220 to 222
– how to charge 219
– losses or wastes 222
– overhead 263
Maturity file (see Accounts Payable)

MERCHANDISE
– account (see Bookkeeping)
– how valued 178

N

Net worth, how ascertained 173

NOTES PAYABLE
– account (ledger) 139
– (see also Statement of Condition)

NOTES RECEIVABLE
– account (ledger) 139
– how they appear in the statement of condition 167

O

Obsolescence (see Depreciation)
Other income, account (ledger) 141

OVERACCOUNTING
– danger of 2
– how a coal dealer was dissuaded from 6
– instances of 2, 3

OVERHEAD
– abnormal conditions 265, 266
– administrative expense 255
– apportioning expense 254
– charging 258
– contributory expense 248
– definition of 243
– departmental basis 245, 246
– departmental cost sheet 246 to 248
– distribution of 242
– divisions of 244
– expense analysis 249, 250
– expense divisions 252, 253
– false methods of distribution 255, 256
– fixed charges 244, 245
how to apportion 216
"labor dollar" charge 259, 261
– machine hour plan 260
– material 263, 264
– of man who sells service 281
– pound or yard basis 256 to 258
– power expense 251, 252
– production center 258, 259
– production expense 248
– productive hour method 258, 260
– retail 299
– sources 242

P

Packing as selling expense 160
Partnership, recording accountancy facts of 40

PAYROLL
– account (ledger) 42, 49, 81, 100, 124, 140
– form of check 93, 94
– methods of payment 91
– moving-picture company's method 92, 93
– protection against dishonesty 92
– sheet 93 to 97
– two phases 91
– (see also Labor)
Petty cash account (ledger) 138

PLANNING
- facilitated by good accounting system 23
- how it may increase profits 23
- that increased the rate of turnover 23

PRICE
- of raw material, fluctuating 150
- rules for values 148

PRICE CUTTING
- danger of, without accurate cost system 13
- encouraged by ignorance of costs 14

PROFIT OR LOSS STATEMENT
- departmental 18
- manufacturer's inadequate 16, 17
- retail 302
- that shows up inefficiency 19
- unit basis 17

PROFITS
- a matter of guess 15
- ascertaining 143 to 155
- exact knowledge of 13
- fair margin of 10
- how knowledge of costs increased 103
- localizing 144
- manufacturing 207
- on individual sale 103
- relation of inventory to 147

Purchasing (see Buying)

R

Real estate, depreciation of 199
Rent, how charged 206
Reports for the executive 307 to 309
Reserve for depreciation of trucking equipment, account (ledger) 160, 162
Retailing (see Accounting)
Roller autograph register (see Cash)

S

SALES
- account (ledger) 124, 141
- accounting
  - how it helps 102 to 125
  - testing accuracy of 113
  - unit of sale 103
- billing 112
- book 113, 114
- cash by cash register 114
- commission agent 104
- commission merchant 105, 115
- credit memorandum 109, 110
- expense 106 to 108, 268 to 272
- allowances 108
- breakage 107
- deductions 108
- packing 106
- reports 278
- gross
  - in statement of operation 203
  - ratio to capital investment 11
- marketing divisions 104
- recording by machinery 110, 111
- records of retail 293, 294
- register 288
- selling agent 104, 105
- simplifying records 113
- through jobber 104, 115

SALESMEN
- commissions 104
- commissions on sliding scale 270
- correspondence with 119
- rating 269, 270
- relation to profits 118
- reports 115 to 118, 120
- salaries 268

Saliers, Professor E. A., article on trade acceptance 126

SCRAP
- how to charge 228 to 230
- salvaging 230

SECURITIES OWNED
- amortization of 163
- how to enter 163
- what they consist of 163

Service, accountancy for man who sells 280 to 284

SINKING FUND
- how it appears on the books 164
- what it is 164

Specialty Company, accounting methods, 39 to 50, 79 to 82, 98 to 101, 121 to 125, 136 to 141, 146, 147, 152 to 155

STATEMENT OF CONDITION
- acceptances 168
- accounts payable 180, 181
- accounts receivable 166, 176, 177
- accounts receivable in suspense 167
- accruals 171, 172
- assets, two classes of 159
- bills receivable 177
- bonded indebtedness 171
- buildings 178
- capital stock 170, 171
- cash on hand 176
- cash surrender value of life insurance policy 168
- cash, what to include under 165
- contingent liabilities 173
- current liabilities 171

– deferred assets 168
– definition of 156
– depreciation reserve 160 to 162
– establishing a discount line 175, 176
– fire insurance premiums 169
– fixed assets, definition of 159
– good will 190, 191
– how bankers analyze 174 to 182
– individual or partnership 158
– liabilities, two classes of 159
– merchandise 178
– need for 156
– neglect of, grounds for suspicion 157
– net worth 173
– notes payable 179, 180
– notes receivable 167
– petty cash 165, 166
– plant and equipment 179
– prepaid operating expenses 169, 170
– purposes it serves 156
– real estate 178
– reserves 172
– securities owned 163, 164
– sinking fund 164
– stock turnover 178
– surplus 173
– surveys of 174, 175
– treasury holdings 162, 163
– usual form 158
– what one showed 157

STATEMENT OF OPERATION
– allowance 203
– cash discount 208
– cost of goods sold 204, 205
– deductions 203, 209
– depreciation 207
– derivation 202
– dividends 208
– expense
  – administrative 208
  – selling 208
– factory supplies 205
– for the banker 201
– forms 202, Insert X
– freight outward 203
– gross sales 203
– heat and light 207
– insurance 206
– manufacturing expense 205
– manufacturing profit 207
– only a substitute for cost system 201
– other income 208
– power 207
– rent 206
– repairs and renewals 207
– return sales 203
– simplest form 201
– taxes 206
– trade discount 204
– value of 201
– what it is 200
– what It shows 200, 201

STATEMENTS
– how often to make 277
Statistics, ratio of sales to capital investment 11
STOCK
– check on errors 61
– how to fix maximum and minimum 56, 57
– how to record sale of 45
– records 59 to 62
– room
  – carelessness in the 58, 59
  – controlling 57
  – effect on turnover 55
  – indigestion of the 58
– shortage report 63, 64
Surplus 173
SYSTEMS OF ACCOUNTING
– changing gradually 7
– chemical company's 7
– coal operator's inadequate 15
– danger of thrusting in new 4
– fitting to your business 3 to 9
– how they permit planning 22
– new, that effected economies 20
– personal equation 4
– ready-made 8
– retail coal dealer's 5
– the best 7

T

Taxes, theories of 206
Timekeeping (see Labor)
TRADE ACCEPTANCES
– article by Professor Saliers 126
– distinguishing between notes and 127
– how they appear on the statement of condition 168
– how to charge 127, 128
Treasury holdings, what they are 162, 163
Trial balance (see Bookkeeping)
Trucking equipment account (ledger) 160, 161
TURNOVER
– average in retail stores 12
– definition of 11
– increasing 288
– retail 287
– stock 178

W

Washburn vs. National Wall Paper Company 183
WASTE
– of materials 222 to 228
– plans to reduce 226 to 228
– standardization to prevent 225, 226